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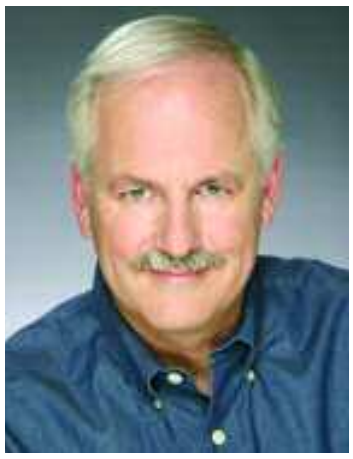

Analyst Rob Enderle believes today's fast development tools render the concept of RAD essentially obsolete.

Rapid Application Decline?

Analyst, vendors share different views on RAD

BY JEFF FEINMAN

When the concept of rapid application development first surfaced in the 1980s, RAD was heralded as a way to meet application delivery schedules, at the risk of sacrificing usability and features.

But as new tools focusing on sheer speed have emerged since those days, does RAD remain relevant?

Analyst Rob Enderle, founder and principal analyst of The Enderle Group, argued that the concept of RAD is dead. Some tool makers say that RAD has undergone a metamorphosis and now implies agile development, while others believe that tradi-

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A Platform Built by Force

Salesforce service raises questions about integration

BY ALEX HANDY

For platform-as-a-service to work, it all comes down to integrations.

When Salesforce.com CEO Marc Benioff announced his company's new Force.com platform-as-a-service site in mid-September, his employees spent time assuring that integrations were at the heart of this new platform. But these integrations aren't all coming from Salesforce itself; many of the company's highly touted customer integration projects were completed by third-party developers who now make their living by tying internal and external applications together.

But that's all part of the plan, said Peter Coffee, Salesforce's director of platform research and former eWeek columnist. He explained that Salesforce offers consumable APIs for developers who wish to write their own integrations, but third-party integration solutions abound. Cast Iron Systems has even developed a network appliance to do the job.

The platform launch was accompanied by the announcement of new application construction tools. At the heart of the Force.com development environment is Salesforce's Apex programming language and its new Visualforce user interface design tool.

Apex, which was introduced at Salesforce's 2006 Dreamforce convention last fall, creates functional code that in practice works like a stored procedure. These procedures can be coupled together into Web pages using Visualforce. Applications can then be debugged through a new Eclipse plug-in designed to connect to the Force.com system internals.

Salesforce is banking heavily on the Force.com platform as a contender in the field of enterprise application platforms, and not just as a new place for startups to build their software.

When asked if Salesforce was advocating the removal of customers' old infrastructure to be replaced by Force.com, Coffee said, "I don't think we would ever tell people that's something they need to do. The entire point of what we've been trying to make clear in the integration area is that it's not an either-or proposition, [but rather] 'Where's the best place to make that new investment?'"

Denis Pombriant, founder of analyst firm Beagle Research

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GPL Lawsuit Starts Monsoon

SFLC believes mere compliance isn't punishment enough

BY ALEX HANDY

The first GPL lawsuit has been filed in the United States—and despite quick moves by the defendant to stop violating the GPLv2 license, the case might settle some long-standing questions about open source code.

The Software Freedom Law Center (SFLC) announced in late September that it had filed suit against Monsoon Multimedia on behalf of the two principal developers of the open source project BusyBox. The lawsuit, filed in U.S. District Court in New York, alleged that Monsoon Multimedia infringed upon GPLv2 by refusing to distribute the source code for its product, which made use of BusyBox.

GPLV3 SLOW ON THE UPTAKE
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Five days later, on Sept. 25, Monsoon Multimedia announced that it would comply by distributing the source code, but at press time, the SFLC had not agreed to a settlement of the lawsuit.

Monsoon Multimedia, a company that makes digital television recording and distribution devices, admitted prior to the filing of the suit that it used BusyBox in its product. BusyBox is a suite of Unix-like tools typically used in embedded and minimal Linux distributions. Erik Andersen and Rob Landley, the two BusyBox developers who are the plaintiffs in this case, originally notified Monsoon Multimedia of their violation in early September. When no response was seen after a week, the pair turned to the SFLC to make its case.

Dan Ravicher, legal director of the SFLC, said that resolving the lawsuit through compliance alone would not send the right message. "The problem with only requiring compliance is that there's no real punishment for people who go around

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Associate law professor James Grimmelmann asks: Is GPLv2 a license or a contract?

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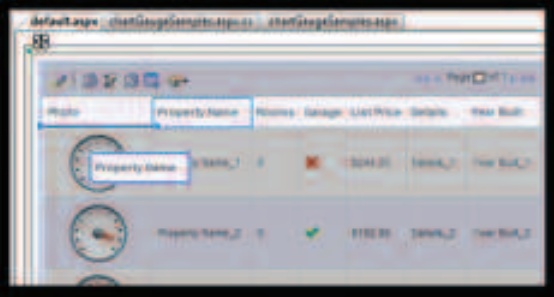
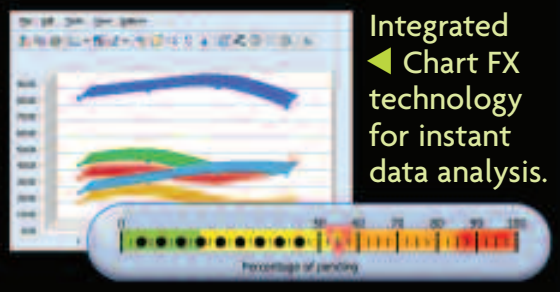


▲ Drag & drop grid elements within the Visual Studio 2005 design surface.



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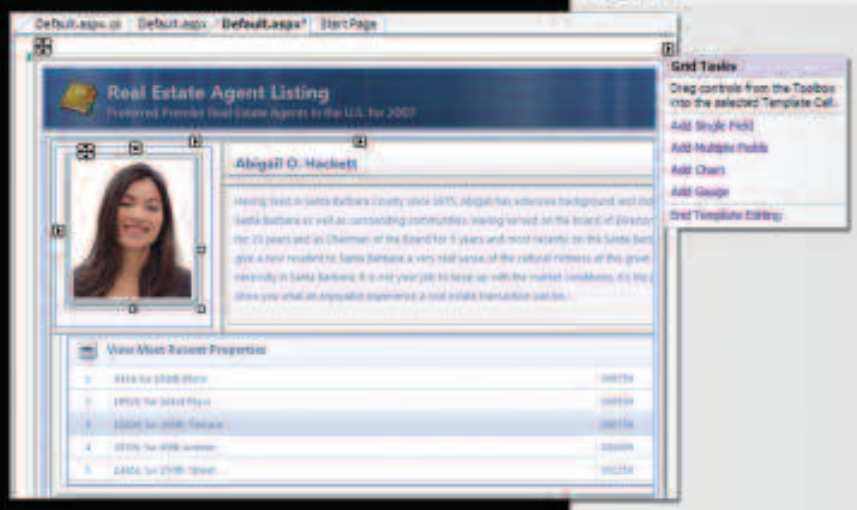

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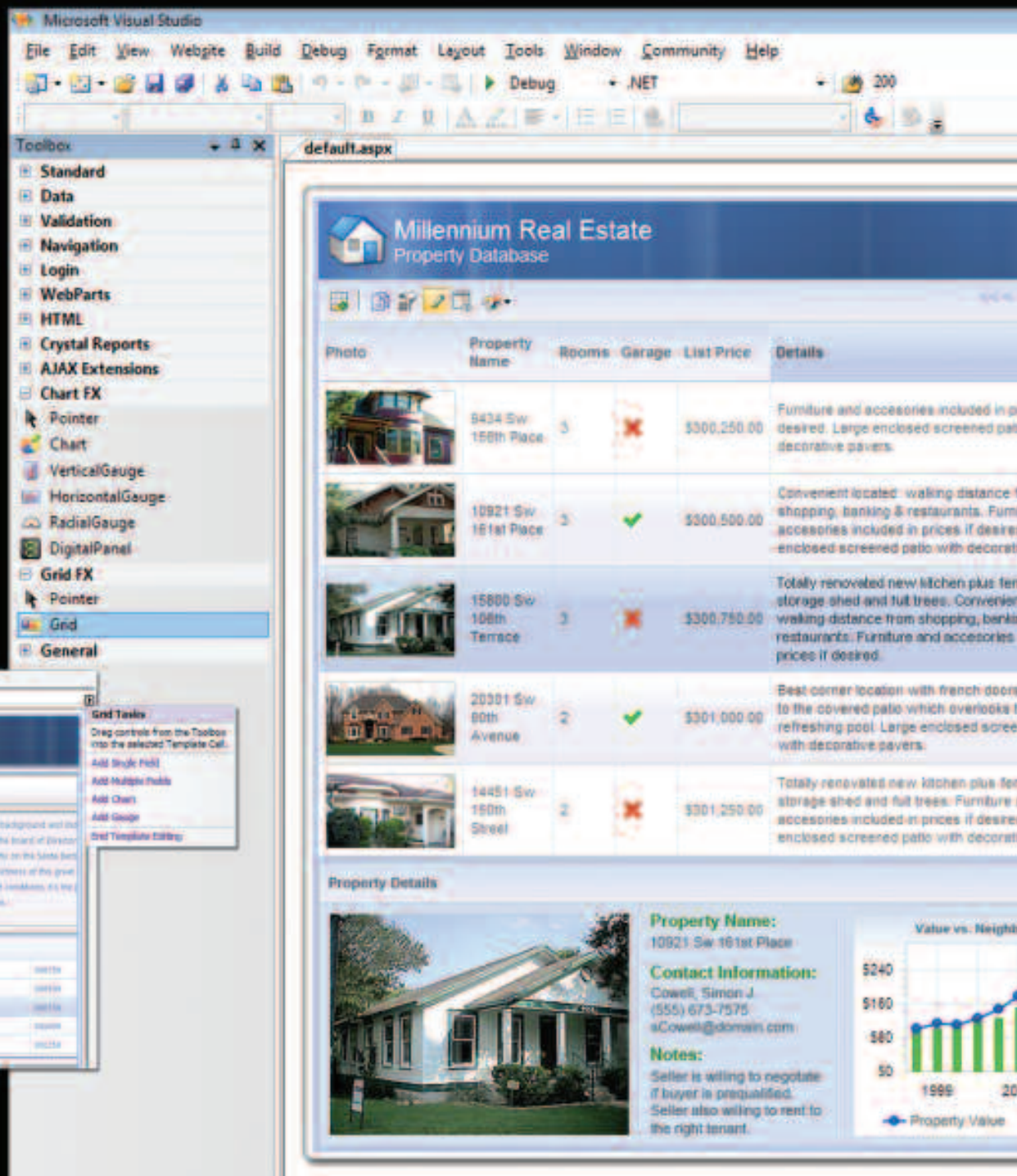

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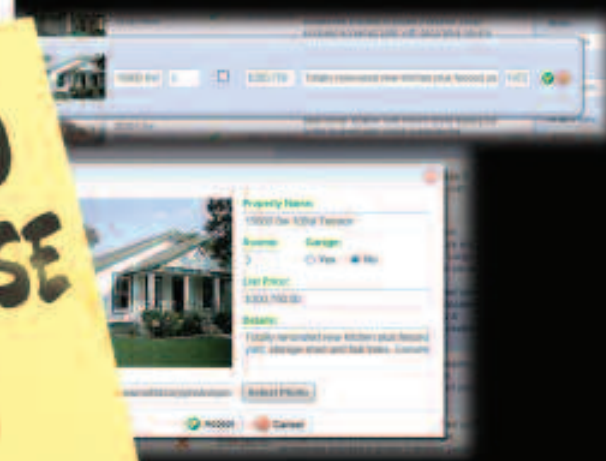

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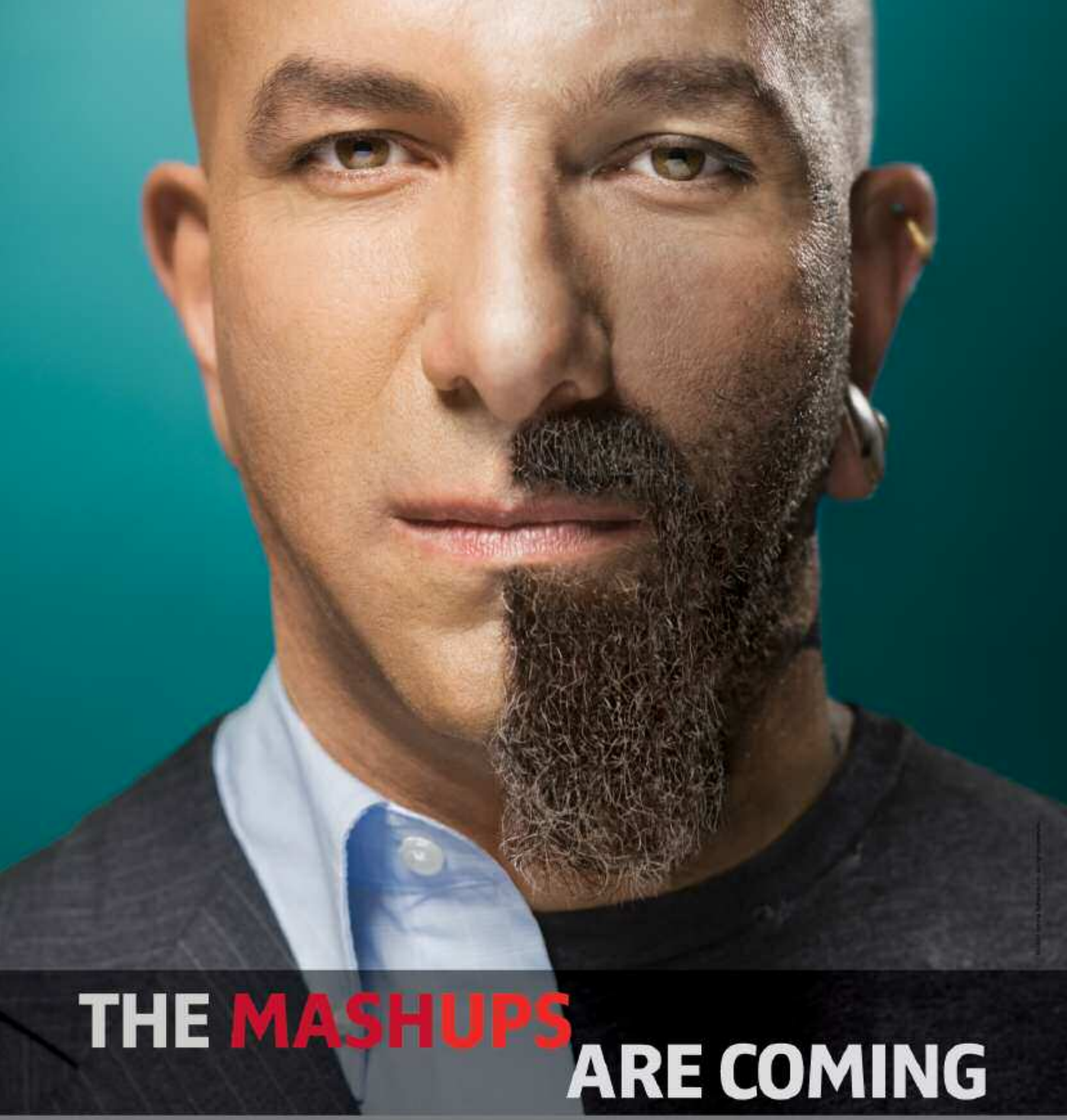

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EU Court Upholds Landmark Antitrust Ruling

Microsoft required to pay a fine of €497 million as appeal denied

BY DAVID WORTHINGTON

Microsoft's appeal fell on deaf ears on Sept. 17 as the European Union's second-highest court upheld the March 2004 European Commission finding that the software maker abused its dominant market position in Europe.

The European Court of First Instance in Luxembourg found that Microsoft had infringed Article 82 of the EC treaty, as the commission had claimed. It was found to have engaged in two separate types of misconduct and subsequently fined a landmark €497 million plus court costs.

The two counts were based on Microsoft's refusal to share interoperability information with competitors, and for bundling software with Windows that created anticompetitive conditions in the media player marketplace, the commission said.

The courtroom saga began in 1998 after Sun Microsystems levied a complaint against Microsoft for denying its request for Windows Server communication protocols that would have made its Solaris server operating system interoperable with Windows.

Microsoft rejected Sun's request on the grounds that documentation was available in the public domain and its belief that Sun was attempting to mimic the behavior of Windows, but the commission flatly rejected that argument and required it to provide its competitors with interoperability information as a remedy.

Microsoft was also required to offer European customers a version of its flagship operating system without the Windows Media Player, resulting in the so-called "N" editions of Windows XP and Vista.

"The Court considers that the Commission was correct to conclude that the work group server operating systems of Microsoft's competitors must be able to interoperate with Windows domain architecture on an equal footing with Windows operating systems if they are to be capable of being marketed viably," the court's ruling read. "The absence of such interoperability has the effect of reinforcing Microsoft's competitive position on the market and creates a risk that competition will be eliminated."

In its upholding of the EC finding on Windows Media Player, the court determined that Microsoft's bundling of its own software had the inevitable consequence of affecting relations on the market between Microsoft, OEMs and third-party media software vendors by altering the balance of competition in Microsoft's favor. The court found that to be detrimental to media player makers.

The court, however, did annul the part of the EC's 2004 ruling that would have required Microsoft to finance the cost of an independent monitoring trustee to examine its future behavior. It found that the commission had no authority to compel Microsoft to grant a monitoring trustee powers that the EU Constitution itself is not authorized to confer onto a third party.

Microsoft general counsel Brad Smith said at a news conference, "It's clearly very important to us as a company that we comply with our obligations under European law. We'll study this decision carefully, and if there are additional steps that we need to take in order to comply with it, we will take them." ■

EU COMMISSIONER TUSSLES WITH DOJ

Neelie Kroes is not taking any lip from the U.S. Department of Justice's assistant attorney general of antitrust.

After the European Union and the Court of First Instance in Luxembourg dismissed an appeal by Microsoft to retract the Commission's 2004 antitrust ruling, Kroes, the EU's competition commissioner, lashed out at Thomas Barnett, the U.S. DOJ's assistant attorney general of antitrust, for his criticism of the decision.

In a statement, Barnett warned that the ruling could "have the unfortunate consequence of harming consumers by chilling innovation and discouraging competition."

Kroes answered Barnett's comment by saying, "It's totally unacceptable that a representative of the U.S. administration should criticize an independent court of law outside of its jurisdiction."

Though Barnett may not have agreed with the EU, many in the software industry applauded the decision. "In our business, interoperability information is critically important and cannot simply be withheld to exclude all competition," said Matthew Szulik, chairman and CEO of Red Hat.

—Jeff Feinman

Altova Dives Deeply Into Databases

BY DAVID WORTHINGTON

If a trading partner sends another partner an XML file, the safe money is that it is not formatted to fit a particular table in that partner's database, and neither is that XML feed of calendar information that the marketing department subscribes to.

Scenarios such as these motivated Altova to broaden the database functionality of its 2008 product line, said Tim Hale, Altova's director of global marketing.

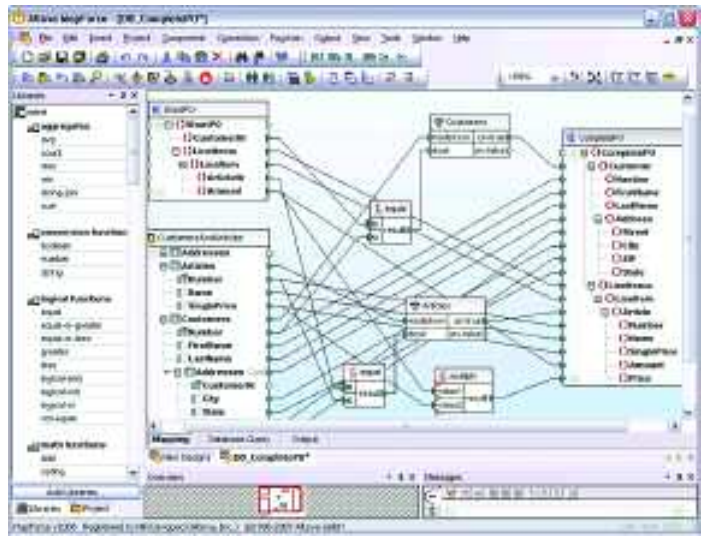
The 2008 versions of Altova DatabaseSpy, MapForce, StyleVision and XMLSpy have new capabilities to connect to relational databases, and edit, query and view relational and XML data stored within. The products were released in mid-September.

DatabaseSpy 2008 provides a unified interface, query and design tool for multiple databases from major vendors, including those from IBM, Microsoft and Oracle. It can now create and edit database views—stored queries of data from database tables—as well as stored procedures, with the goal of optimizing repetitive SQL statements.

Altova also added database content editing functionality to DatabaseSpy, designed to enable users to edit and retrieve content in existing database tables, add rows to insert new data or delete rows through a point-and-click paradigm. Changes are not applied against production databases until the user reviews them and commits to the change.

When a calendar RSS feed has field values that differ from a database input field, data conversion is necessary. MapForce 2008 adds a value map function that transforms field values from the source to the target, said Hale, making it possible, for example, to swap numbers for the names of the months that represent them.

A database connection wizard and Altova's database query window were added to Altova's StyleVision stylesheet designer. New features also make it possible to reuse portions of existing design files when creating new designs.



MapForce 2008 can transform field values from the source to the target.

Altova's flagship XMLSpy product now offers extended support for Microsoft's Office Open XML document file formats. Users can edit, extract, query and transform data that is stored in Microsoft Office application files.

There's not much one can do with data locked away in proprietary formats, except e-mail it around, said Hale. "You can now write applications to extract, transform and use that data programmatically. That's huge. Once people realize that they have data that is somewhat standards-based, they can do a lot more with it than they have been able to do in the past."

Additionally, XMLSpy now allows SQL data editing from within its query window.

Integration is the watchword for Altova's 2008 product line. The UModel UML modeling environment now integrates with Eclipse and Microsoft Visual Studio, with added support for Visual Basic .NET code engineering. UModel is synchronized with the source code editors of both IDEs for real time visualization of applications revisions.

SCHEMA MANAGEMENT

Hale noted that SchemaAgent, once a value-add to Altova's MissionKit suite, is coming into its own as a standalone product with this release. Originally intended to analyze relationships between XML schemas, SchemaAgent now visualizes and manages Extensible Stylesheet Language Transformations and Web Services Description Language file relationships.

SchemaAgent also includes change impact analysis capabilities. "It's good to know in advance if documents would become invalid," said Hale.

Finally, DiffDog 2008 now features one-click directory merge and binary file comparison, while SemanticWorks 2008 allows developers to edit instances of classes when designing Semantic Web documents, ontologies and vocabularies. ■

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OpenAJAX Alliance Looks To Tighten Mashup Security

BY JEFF FEINMAN

In the midst of all the activity at September's AJAX World in Santa Clara, a prominent AJAX body was hard at work laying out initiatives for secure mashups and stronger IDE support.

The OpenAJAX Alliance announced OpenAJAX Hub version 1.1, a small JavaScript library that allows multiple AJAX toolkits to work together on the same page. The new hub will support secure mashups and enable client/server messaging. The alliance expects to deliver both a specification and a commercial-quality open source implementation.

The key problem with keeping mashups secure, according to David Boloker, CTO of emerging technologies at IBM and a founder of the alliance, is that they come from multiple domains. Hub 1.1 is a way to secure the mashups that come in by isolating them into what he called "secure sandboxes." The plan is to have mashups use OpenAJAX Hub's publish-and-subscribe features to achieve mediated cross-component messaging.

Boloker said the OpenAJAX Alliance started a discussion of mashup security a long time ago, and an OpenAJAX task force is focused on the subject.

"There's a blending of ideas in the [area] of security and how to allow multiple widgets on a Web page to communicate with one another," he said. "If you think about it, a mashup is someone else's JavaScript coming in onto your page, and if you do that in a pub-sub manner and everyone is communicating, you can secure the mashup. That's where the security task force and OpenAJAX Hub 1.1 are coming from."

The alliance has also released a new white paper, titled "AJAX and Mashup Security," which summarizes the ways in which AJAX applications could be attacked and provides a set of best practice techniques to address each of the vulnerability areas. The white paper is available at www.openajax.org.

According to Boloker, the alliance is starting to spread its wings, and has many activities taking place. It has formed the Mobile AJAX committee, which will focus on both educational materials and technical standards. There is a workgroup concentrating on AJAX IDEs, looking to find the best way to integrate AJAX components with IDEs.

The OpenAJAX Alliance was formed in late 2005, and members include Google, IBM, Laszlo, Microsoft, Mozilla, Novell, Oracle and Yahoo. It is focused on creating interoperability between AJAX frameworks. ■

GPLv3 Slow on the Uptake

Open source projects aren't flocking to the new license

BY ALEX HANDY

Evans Data in late September released the results of a study measuring the uptake of GPLv3 in the open source community. The survey showed that the majority of projects and users surveyed haven't made the move to GPLv3, and that they're not likely to do so anytime soon. The survey showed that only 6 percent of open source projects have made the switch, and that 43 percent of those interviewed have no plans to ever move to the license.

John Andrews, president and CEO of Evans, said that he and his team were not surprised by the results of this survey, which contacted almost 400 open source developers. He said that the new restrictions imposed by GPLv3 make it difficult for developers to commit to a shift, and introduce new hurdles that could get in the way of adoption and development.

"GPLv3 is controversial because it imposes restrictions on what you can do with programs implemented under this license," said Andrews. "Developers are confused and divided about those restrictions, with fairly equal numbers agreeing with the restrictions, disagreeing with them, or thinking they will be unenforceable."

Palamida, a software company that addresses licensing issues in the enterprise, has been tracking GPLv3 and LGPLv3 movement since the license was finalized in July. According to its numbers, about 750 projects have moved to these two licenses. Among those are GNU Emacs and numerous smaller projects that are typically focused on the consumer or small developer.

Bernard Golden, author of the book "Succeeding with Open Source," said that the primary reason he expects developers aren't adopting GPLv3 can be explained with a simple cliché: "If it's not broke, why fix it? For many [open source developers,] they feel they're getting what they need from GPLv2." ■

NEWS BRIEFS

COMPANIES

Language distribution and development tool maker **ActiveState** has created the Open Komodo Project, an initiative to create an open source platform and support open Web standards. ActiveState has open-sourced the browser-side capabilities of Komodo Edit, a free multilanguage editor for dynamic languages. The first tool that the project is creating on the Open Komodo codebase is a client-side Web development tool that will be integrated with Firefox.

NEW PRODUCTS

AgileDelta, a creator of software that aids in the delivery of information across enterprise systems, has released Efficient XML for Microsoft's .NET Framework. **Efficient XML for .NET** allows Microsoft servers to interoperate with a range of Java-powered mobile devices and desktops. The tool implements .NET XML interfaces that can be used in .NET applications . . . Intel has released a beta version of its **C/C++ compiler** that supports software transactional memory. For threaded programming, this compiler can minimize the need for locking processor threads when separate processes need to access a single piece of data. The compiler beta can be downloaded at developer.intel.com . . . OpenLogic, a provider of enterprise open source software tools, has launched the **OpenLogic Exchange** (OLEX), a free Web site where companies can download enterprise open source packages. OLEX provides access to more than 300 updated open source software packages, along with tools and information on open source licenses and policies to help improve governance of open source in the enterprise . . . Data visualization technology provider Dundas Software has released **Dundas Gauge for SharePoint**, a set of gauge components designed specifically for Microsoft's SharePoint portal technology. The new product has AJAX-enabled gauges and data analysis abilities. There is also a new callback manager for executing JavaScript on the client without refreshing the entire page . . . Venafi, a provider of systems management for encryption, has released the **Client Encryption Manager for the Windows Encrypting File System**. The new tool provides automated configuration and management capabilities, and helps companies using Microsoft technology protect client data. The tool also offers migration to Windows Vista, with a full disk encryption data-protection feature.

UPDATES

A preview version of **Visual Studio Team System Web Access 2008** is available as a free download on Microsoft's Web site, and can be installed with licensed installations of Team Foundation Server. The Web interface for TFS can display custom controls on work item forms, and offers the ability to queue new builds and add new work items or edit existing ones, and the ability to view documents on SharePoint portals . . . RIA provider Laszlo Systems has released version 1.2 of **Laszlo Webtop**, its flagship commercial desktop application suite for Web 2.0. The update includes Laszlo Mail and Contacts, which offers the ability to integrate advertising. Webtop can also be complemented with modules like news and weather, or productivity applications like VoIP-based calendaring and real-time messaging . . . Project management software creator Vertabase has launched its **Vertabase 4** platform. Vertabase lets users enter information via software applications and then share reports and manage projects with third-party apps. New features include the use of Microsoft Excel and Google spreadsheets to import schedules and tasks and the export of projects to Microsoft Outlook and Google Calendar . . . AdventNet has announced the general availability of **SwisSQL Data Migration Edition 4.9**, its tool for moving data between flat files and relational databases that now can migrate data and schemas to and from PostgreSQL databases . . . CapeClear Software, a company that provides an enterprise service bus platform, has announced version 7.5 of its ESB platform. **CapeClear 7.5** brings new Eclipse tooling that automates tasks in SOA application development. A new feature called the SOA Assembly Editor simplifies the creation of SOA apps and integrates with REST resources. ■

Practice Lean Development? You Bet You Kan(ban)

Japanese company applies Toyota production techniques to software

BY DAVID RUBINSTEIN

What do the manufacture of automobiles and the development of software have in common? If you're Japanese project management tool maker Change Vision, the similarity rests in the concept of "kanban."

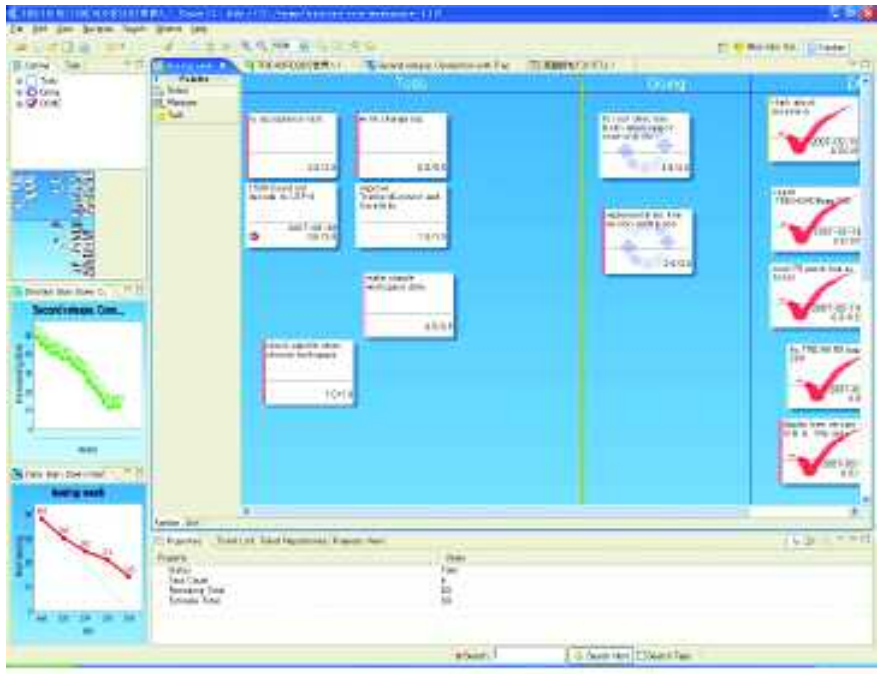
Loosely, kanban means sign or billboard in Japanese, but it also is the word used to describe the "pull" production methods developed at Toyota to ensure that what is made meets the actual demands of customers. Change Vision is taking that concept and applying it to software, seeking to ensure that the only new features added to software are those defined by the users of that software.

"Kanban generates tickets that make the work self-directing," explained Kenji Hiranabe, CEO of Change Vision, who was at the mid-September SD Best Practices event in Boston to give the first showing of his kanban-based Trichord agile project-management tool in the United States.

"In the Toyota Production System, no process produces output without having a real need from a downstream process," Hiranabe continued. "This prevents making work in progress" or inventory, which in the Toyota system is kept to a minimum. "In agile [software development], the customer is defining the output that pulls value from the project team. It's not 'analysis-design-code-test' then 'customer.' That's backward."

Conventional methods can leave organizations with unwanted code and features that are not fully developed—or excess inventory. "Our goal is to have no inventory," Hiranabe said.

Using kanban to develop software, Hiranabe said, "allows for the creation of valuable software. This is akin to lean production. The customer is first." Hiranabe is so taken with lean production for software that he has translated Mary and Tom Poppendieck's seminal work on the subject, "Lean Software Development: An Agile Toolkit for Software Development Managers," into Japanese.



Kanban feature cards are placed into a timeline for completion only after they are 'pulled' from end users.

Trichord is a simple project management tool that utilizes kanban-style boards to describe stories, tasks or features, which are then placed into a timeline for completion. The tool also includes burndown charts and so-called "parking lot" charts that give a higher-level view of a project's status. In addition, the tool works with the open source Trac project for issue tracking; a symbol will appear in the kanban card if the issue originated in Trac.

One feature that was directly lifted from Japanese manufacturing is a "niko-niko" calendar, which tracks the mood of team members from day to day via facial-expression icons and to which comments can be posted, such as "I've been working for seven solid hours and I'm exhausted!" A manager can then decide to give that team member a break, or a pep talk. ▮

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BEA Refreshes Transactional Classic

Company overhauls extensibility, security in Tuxedo processing monitor

BY JEFF FEINMAN

BEA Systems is taking its Tuxedo out of mothballs and tailoring the venerable transaction-oriented middleware with new versions of the Tuxedo transaction processing monitor for C/C++ and COBOL applications, and its companion Services Architecture Leveraging Tuxedo stack. A new end-to-end monitoring tool, Tuxedo System and Application Monitor (TSAM), was expected to debut at the same time. According to BEA's Lorenzo Cremona, director of Tuxedo product marketing, TSAM gives customers the ability to set service-level agreements based on average response and transaction times.

TSAM is a framework that allows customers to manage performance-based characteristics on transactions and messages. It can also connect to third-party management consoles, such as BMC Performance Manager, HP OpenView and IBM Tivoli.

FOCUS ON SECURITY

Cremona noted that Tuxedo version 10 is focused on security and extensibility. "Security is a big concern of our customers because things are a bit wacky in cyberspace, and there's a real need to tighten up security, and it seems our customers are of the opinion that widely accepted standards are the best way to handle that," Cremona said.

The Tuxedo update comes with connectivity through its own WebLogic Java EE app server and Secure Socket Layer (SSL) support for network links. New in this release is support for advanced password encryption standards.

Services Architecture Leveraging Tuxedo (SALT) is a native Web services stack for Tuxedo. The new version lets users access Tuxedo services as standard Web services, and allows Tuxedo applications to call external Web services using SOAP over HTTP, with a configuration-driven model.

Cremona claimed this release, expected on Oct. 2, is a big opportunity for Tuxedo. Since most development today is happening on either .NET or Java frameworks, he argued, application development has decreased on C/C++ or COBOL frameworks.

"One of the criticisms we were getting three to five years ago was that nobody was doing anything with Tuxedo. Tuxedo was really focused on applications written in legacy languages, such as C/C++ and COBOL. However, the company's shifted gears, and the area of focus for Tuxedo is shifting, from new applications being developed in legacy languages to having Tuxedo being a mainframe alternative." ▮

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Adobe Showcases First Apps From Flex Partners

Associates demonstrate applications built with AIR platform at MAX conference

BY DAVID WORTHINGTON

Microsoft may have taken the spotlight first in May, when it previewed its Silverlight platform, but now it's Adobe Systems' turn to bask in the glow. At its MAX 2007 conference in Chicago, the company unveiled the first RIAs built with its cross-platform Adobe Integrated Runtime, also known as Adobe AIR, in a bid for developer mindshare.

Adobe took center stage with its partners on Oct.1, the opening day of the MAX conference. AOL, Business Objects, eBay, Nickelodeon, QVC and Salesforce.com are some of the companies that have already developed working AIR applications.

Adobe also demonstrated Buzzword, an online word processor that it acquired from Virtual Ubiquity, and made available a prerelease version of its Adobe Media Player application; both were built with AIR.

AIR creates applications out of Flash, Flex, HTML and AJAX. The AIR desktop runtime sets it apart from Silverlight, which runs exclusively from the Web. Adobe has also launched the Adobe AIR Marketplace, a Web site where developers can publish and promote AIR applications.

New beta versions of the AIR runtime and AIR SDK, as well as Adobe Flex Builder 3 and the Adobe Flex 3 SDK, were made available at MAX. Adobe could not make a spokesperson available to SD Times before press time.

ELIXIR TO ADD VISUALS

There is no sizable partner ecosystem for Adobe's nascent Flex 3 platform for now, but ILOG might have the "Elixir" that Adobe needs to create one. ILOG Elixir is a graphical visualization component library for AIR and Flex that Adobe will market and distribute.

Distributed as a beta on Oct. 1, Elixir is a collection of live-display charting components, which includes 2D, 3D, organizational and radar charts; scheduling displays; tree maps for visual analytics; and world maps for dashboards.

"Microsoft is building an ecosystem around its platform. A slew of companies have provided Microsoft-compatible components. Flex is being seen as a challenger, competing with Silverlight, and [Adobe does] not want to be the only provider of components," said Ed Kiraly, ILOG's product manager for visualization tools.

According to Kiraly, Elixir will be generally available in early 2008, when Flex 3 is formally released. ▮

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CollabNet Keeps Track of All Branches

Subversion 1.5 to have merge-tracking capabilities in November release

BY JEFF FEINMAN

Subversion 1.5 is the name, and merge tracking is the game. The newest update of CollabNet's version-control system, slated for a late November release, will automatically handle merge operations and offer many-to-many tracking of changes to code branches.

"With all development methodologies, whether it's agile or waterfall, you typically have several branches going on in parallel," said Isabelle Dumont, senior director of product marketing for CollabNet. "At some point, you need to merge the work."

Before version 1.5, Dumont said, Subversion lacked the ability to track where different code branches merged. She explained that this information must be kept in many cases to comply with industry regulations, and to provide the ability to backtrack and unmerge a mistake. Before this release, Subversion could facilitate merges but would not record them in its history information and could not automatically track changes.

The new merge-tracking capabilities are set up in the form of a log, with information showing which branch was merged with another, by whom, and what products were merged. Subversion 1.5 can also prevent duplicate merges, handle bidirectional merging, and offer manual record-tracking.

In today's global workplace, the ability to track branch merges is "absolutely crucial," according to Laura DiDio, a research fellow with the Yankee Group. Any tool that can shorten the time-to-market and eliminate guesswork is going to make a much more efficient application development environment, she noted.

"Many of these teams don't get to sit next to each other or get that crucial face time all the time, so how do they do things?" DiDio said. "If they make changes, and they're not tracked or updated, confusion can ensue. Maybe they're incompatible with one another, and they cause a bug; maybe the work is duplicated—you could basically induce errors. You want people to be on the same page."

DiDio also pointed out that having these features is key for CollabNet in keeping up with competition, as products such as Borland StarTeam, IBM Rational ClearCase and Perforce already provide merge tracking.

"Customers are demanding more efficiency, more flexibility in the application, more functionality in the application," DiDio said. "If you're going to get those applications to market and keep up with the competition, you've got to make sure they work right the first time."

The new features are the result of collaboration between the Subversion user community and CollabNet, with the company gathering enterprise requirements and organizing a February 2006 workshop where customers and the Subversion development team laid the ground rules for merge-tracking capabilities. ▮

Solaris Express Shines on Developers

New release targets laptops, developer desktops for easier installation

BY ALEX HANDY

The future of Solaris is in the hands of developers and systems administrators, Sun Microsystems believes.

In support of this philosophy, Sun on Sept. 24 released Solaris Express Developer Edition 9/07, a binary distribution of its flagship operating system that includes all of the tools, drivers and applications needed to build and deploy Solaris-based apps quickly.

This version includes a redesigned installer that does away with the confusing configuration and management tasks previously needed to install Solaris.

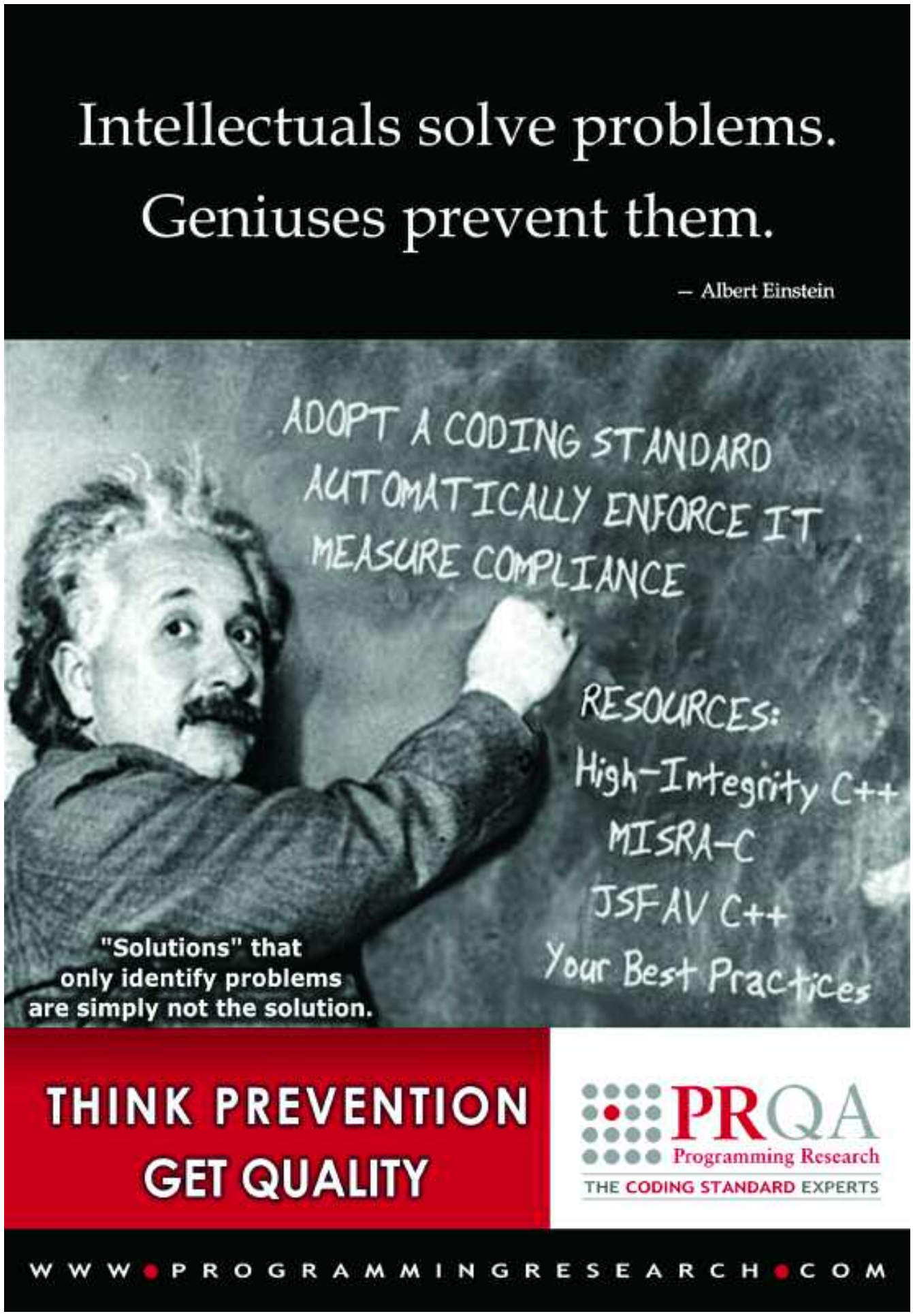
Dan Roberts, director of marketing for Solaris and OpenSolaris, explained that this is the third edition of Sun's developer-focused distribution of Solaris. Much of the work accomplished in this year's releases has been focused on refining the overall user experience. The first release of 2007 simplified the Solaris installer, and this third edition retired it altogether. In its place is a new graphical installer that walks the user through the process of setting up a desktop or laptop as a working environment.

Although Sun's Project Indiana, headed up by Debian founder and Sun chief operating system platform strategist Ian Murdock, has laid out plans for a new packaging system for the operating system, the new installer wasn't part of Murdock's effort to rebuild Solaris in the image of Linux.

Also new to this version is D-Light, a GUI front end for DTrace. Additional drivers and new energy management capabilities also make Solaris Express Developer Edition 9/07 more amenable to installation on laptops. This is a key feature for Roberts, who admitted that Solaris had fallen off of the radar of most developers.

Roberts cited the demise of the developer-specific workstation, and noted, "Because the notion of multiple workstations or task-specific workstations was reduced and everyone ended up with a general-purpose machine, folks' awareness of other operating systems started to be reduced. This is exactly the impetus for Project Indiana. Developers and students reach for the things that are accessible to them. As students, they often share one thing across the globe, which is that they're poor. This led to a lot of activity in the Linux space."

Sun has been adopting many of the practices used by Linux distributions to increase uptake. One of these is Sun's commitment to sending out free installation CDs to developers who sign up on its Web site—a tactic originally pioneered by Ubuntu Linux—in addition to making the disc images available for download. Sun is also offering a variety of support pricing options with the aim of increasing developer confidence in Solaris. ■



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_INFRASTRUCTURE LOG

_DAY 62: We don't have the tools to leverage open standards like Eclipse™ and Linux®. We have zero support. We need to do something but don't know where to start.

_Gil formed a support group for the developers. Who knew he could play the guitar and harmonica at the same time?

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Back Doors Mean Wide-Open Danger

Finding them before they are compiled into applications can save time and money

BY ALEX HANDY

SAN FRANCISCO — Keep your friends close and your hackers closer. Right now, as you read this, it's entirely possible that one of your company's programmers is writing exploitable code into a front-line application. The practice is not uncommon, and both the open source world and internal corporate teams are constantly placed at risk by rogue coders. But finding back doors isn't impossible; tests can detect such code before it can harm deployed software.

Chris Wysopal, CTO and cofounder of Veracode, gave a speech at the IT Security World Conference and Expo here in mid-September, and in it he detailed the numerous methods and reasons for writing back doors. While the methods are diverse and their implementation specific, he explained that the reasons tend to be less ominous: Most hackers who write back doors do so simply because they can.

Sometimes, hidden back doors can amount to a signature from a programmer: They're something the coder simply does with all of his or her applications. For the same reason some programmers hoard old manuals and software, others may add back doors into applications simply for the sake of knowing they still control their projects, long after they're complete.

And still other back doors are explicitly used for targeted attacks.

Wysopal showed numerous examples of back doors found in the wild during his talk. The tactics used in these examples, he noted, can be used to help development teams track down such exploits during code audits.

SCREENING FOR DOORS

The first and easiest way to find back doors, said Wysopal, is using static analysis. Dynamic analysis requires the actual backdoor code to be in use during analysis, which according to him is quite rare. "You can scan programs for all hashing routines, such as crypto. Go back in the data flow and see what's going into the data routines. If there's any static values going in, that's a flag," Wysopal explained, adding that this type of activity is indicative of a back door that includes hidden login names and passwords.

Other back doors could simply hide functionality, such as secret paths to privileged escalation, or the inclusion of secret windows into databases. Detecting this sort of exploit can be trickier, since the code creating this back door will often appear functional and innocuous. Such attacks are common in open source Web applications. One such attack against the popular blogging engine WordPress consisted of only a few lines of PHP, but it gave a malicious user the ability to push through commands to the server.

Other PHP-based back doors are obfuscated, such as one found in the Artmedic content management system earlier this year. This exploit was pasted into the source code in base64 notation. Underneath this snippet of code was a simple command that changed the base64 expression into standard PHP at runtime.

"Look at all the different built-in decoding algorithms that a framework might have, and see if it's ever decoding and sending it into 'eval,'" said Wysopal, explaining how to catch this type of back door.

The worst possible scenario for development managers, however, can be found when a truly talented hacker decides to build a small exploit. This happened in 2003 when a hacker broke into the Linux kernel repositories and modified code on the disk. The exploit itself was found because of server issues, a lucky dodge for the Linux world. But the code used was so small and sneaky, it might not have been detected at all.

Most hackers who write back doors do so just because they can, says Veracode's Wysopal.

Wysopal stated that code audits are a good way to find back doors, but he also said that automated activities could help as well. He cited one example where a backdoor routine was actually titled "backdoor." Although few rogue coders might be that arrogant, simply grepping the source base for "backdoor" could be a useful test before building an application.

One new tactic Wysopal said that he's seen in the financial industry is for coders to build unreachable code into one build of an application, and then add the final touches later on in development. "Someone would insert the backdoor code, but nothing would call that code. It would sometimes slip through an audit. When the code is updated, the second part is added. It's like disassembling the gun so you can get it through the X-ray machine," said Wysopal. ■

BREAKING AND ENTERING

Here are some examples of backdoor code included in applications that Veracode CTO and cofounder Chris Wysopal gave during his speech at the IT Security World Conference and Expo:

WordPress (PHP)

This spring, a hacker broke into the WordPress servers and inserted a back door into the popular blogging software's source code. This PHP code allowed an external attacker to embed commands and queries into a URL that would be parsed and acted upon by the server. These commands could range from basic PHP functions to actual command-line execution within the operating system. Depending on the permissions given to PHP by the host operating system, such a hole could result in root access.

OpenSSH (C)

In 2002, a hacker compromised the source code of OpenSSH, but only the HP-UX flavors. The hack was done with obfuscated C; a long data set that looked like an encryption seed was inserted into the code. A nearby line would decrypt this code at compile time, resulting in the exploit code being online.

Linux Kernel (C)

In 2003, a hacker broke into the Linux kernel repositories and inserted code that modified the sys_wait4() function in kernel/exit.c to allow local privilege escalations. The second line of this code is missing a second "=" and due to its absence, a routine that would normally have checked the user ID instead changes the user ID to 0. Thus, any user who knew of this hole could escalate their user account to root by sending the proper calls to the kernel. This particular back door was extremely small and quite sneaky. Its entirety follows below:

```
if (options & __WCLONE) != __WALL) &&
    current->uid = 0)
  retval = -EINVAL;
```

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Fit Enough for Agile?

New Exigen package to score readiness

BY JENNIFER DEJONG

Is your team ready to go agile? Professional services provider Exigen wants to help answer that question.

The company was expected to announce earlier this month the Agile Assessment Package, essentially a set of scorecards, questionnaires and other resources designed to determine a team's state of readiness for adopting agile development methods.

Aimed at development teams that still use the sequential, waterfall approach to development, the offering, which costs about US$20,000 for a two-week engagement, follows the company's late September announcement of its agile consulting practice, said Exigen senior vice president Doug Mow. Exigen provides outsourced application development services, including those based on the agile approach, but the assessment package is its first official agile offering. David Webb, formerly of Intel, has been hired to head the new practice.

The package helps development managers answer questions such as whether team members assigned to a given project are well suited to pair programming. "Some folks are not culturally disposed to doing that, so sometimes we advise it, and sometimes we do not," Mow said, of the well-known practice from Extreme Programming, where developers work in tandem.

Other issues addressed include who's on the team and what role each member should play, how often team members talk to each other, and whether team members who represent the business side of the house share the same understanding of the project as those who work for IT.

Another aspect of the package is a rating system. Earlier projects are analyzed to assess, for example, whether the specified requirements aligned with business objectives, Mow said. "You might find that the existing business requirements for a given project are excessively technical." That would result in a lower score, whereas those tied to business goals, such as improving customer service or boosting sales, would earn better marks. ▮

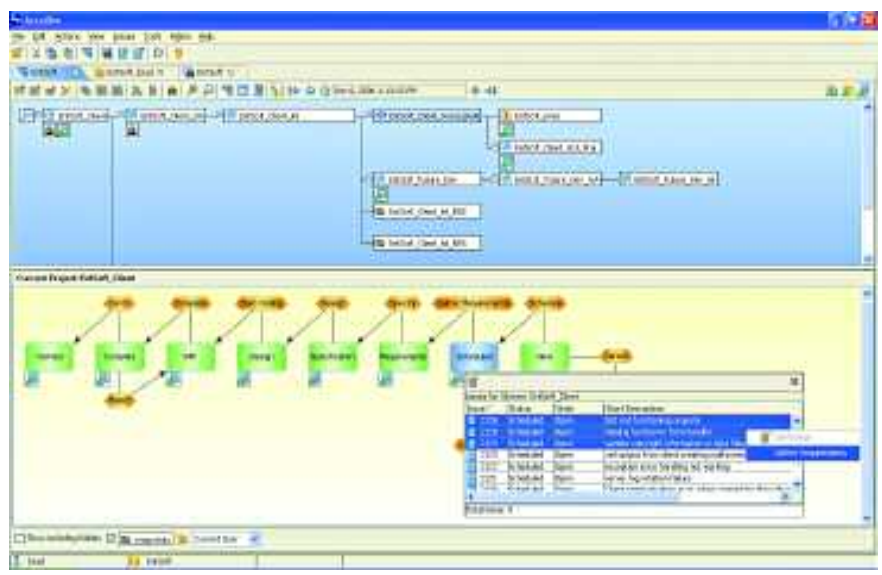
AccuRev Takes on Dependencies

BY JEFF FEINMAN

Software configuration management provider AccuRev has updated its namesake tool set with new visualization and workflow features. AccuRev 4.6, released at SD Best Practices in Boston in mid-September, allows the tracking of issue dependencies between code changes, managed as AccuRev change packages. Developers working remotely can view these dependencies.

Also in AccuRev 4.6 is the VersionSlider, which enables a developer to see how source code files have changed, in a graphical display. AccuRev officials claim that the VersionSlider removes the need to annotate operations on previous versions of files, and makes code reviews quicker. "If I'm an India-based developer and I need to have my code reviewed out of London, a developer in London can drag the slider and see what has changed for me," said Cliff Utstein, vice president of sales and marketing for AccuRev. "I can work collaboratively with that developer in London to move very quickly, and get this done in a range of two to six weeks."

AccuRev 4.6 also offers what it calls more flexible symbolic links, to help engineers manage complex code and project dependencies. ▮



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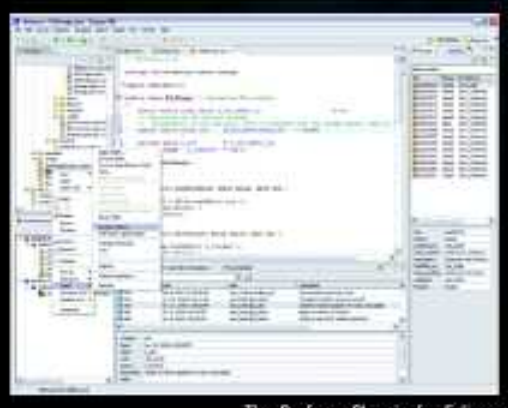

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EclipseWorld 2007 Heads Toward U.S. Capital

BY ALEX HANDY

For nearly half of enterprise developers, it's Eclipse's world; we're all just living in it. For those who hope to learn more about the newest developments with the framework, EclipseWorld 2007 in Reston, Va., will provide insight into what's possible with Eclipse 3.3 and other members of the "Europa" release train.

Starting on Tuesday, Nov. 6, EclipseWorld, produced by BZ Media, publisher of SD Times, will offer three days of training, education and brainstorming around Eclipse and its uses. Many of the show's discussions and presentations will focus on Europa's new features.

Of the dozens of talks scheduled, many offer glimpses into new methods of working, or describe ways to begin using Eclipse. For example, on Wednesday, Nov. 7, Dwight Deugo, author and creator of the Eclipse Community Education Project, will describe methods of using the Eclipse Rich Client Platform in enterprise projects. His class, "First Steps for Building and Deploying Eclipse RCP Applications," explains how to get started with this powerful tool for developing, deploying and even internationalizing rich clients.

On Tuesday, EclipseWorld offers full-day tutorials geared toward introducing Eclipse features to the masses. That day, Deugo kicks things off with a crash course in Eclipse for Java developers, specifically designed to ramp up new users for the following two days' events. Other tutorials on Tuesday include a Ruby-on-Rails introduction, a class on test-driven development, and another that describes continuous integration with the Eclipse Test & Performance Tools Platform.

The conference proper kicks off on Wednesday with Robert Martin's keynote. CEO, founder and president of Object Mentor, he will be discussing the ways Eclipse can help to ease development woes throughout an organization. He will also sit on a "Total Eclipse" panel discussion on Tuesday evening, with David Intersimone, CodeGear's developer evangelist, and Mike Milinkovich, director of the Eclipse Foundation. The panel will be led by Alan Zeichick, conference chair for EclipseWorld 2007, and editorial director of SD Times. ▮

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TECHNICAL CLASSES:
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Thursday, 8:30 am–5:15 pm

EXHIBIT HOURS:
Wednesday, 2:30 pm–7:30 pm
Thursday, 12:30 pm–4:00 pm

HANDS-ON TOOL SHOWCASE:
Tuesday, 8:00 pm–10:00 pm

'TOTAL ECLIPSE' PANEL:
Tuesday, 5:00 pm–6:00 pm, Mike Milinkovich, Robert Martin, David Intersimone; chaired by Alan Zeichick

KEYNOTES:
Wednesday, 8:30 am–9:15 am, Robert Martin
Wednesday, 4:45 pm–5:30 pm, David Intersimone

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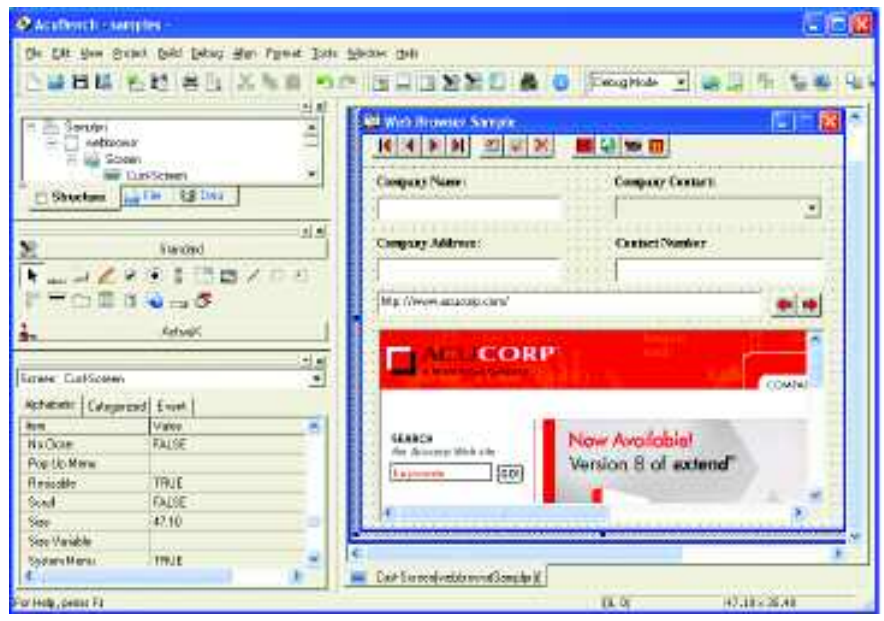


AcuBench is Acucorp's visual IDE for creating COBOL programs.

It's Business As Usual at Acucorp

Extend 8 builds on company's existing COBOL modernization platform

BY DAVID WORTHINGTON

Micro Focus has a message for its Acucorp customers: It's business as usual. At least until 2009, when the company expects to begin integrating its overlapping modernization solutions.

Acucorp product manager Robert Cavanagh explained that the existing schedule of service releases and promised feature set would remain in place, and that any changes to the road map will be publicized.

Acucorp last month shipped the latest version of the Extend interoperability suite, the first product release since the May acquisition by Micro Focus. Extend 8 adds the AcuXUI display engine and enhancements to the AcuXDBC database management system; this release adds support for x64 versions of Windows.

AcuXUI provides a Java-based display engine for Acucorp's ACUCOBOL-GT graphical technology. Interfaces created with AcuXUI are portable to any JRE platform, claims the company. "Customers can evolve applications," Cavanagh remarked, instead of starting from scratch.

Enhancements in the AcuXDBC update apply relational database and SQL concepts to COBOL index files. AcuXDBC now allows JDBC and ODBC applications to access Acucorp's proprietary Vision file system through SQL statements. "It adds database-like functionality to an index file," said Cavanagh.

Performance was another major emphasis of the new release, claims Micro Focus. Extend 8 produces intermediate code compiled from COBOL that is interpreted by the Extend runtime; its performance increases when there are fewer instructions required for the runtime to execute the code. A new binary math package improves performance of arithmetical computing, said Cavanagh.

The product's sort performance also received a shot of adrenaline. Faster sorting accelerates COBOL batch applications, where sorting has traditionally had the biggest impact on performance, Cavanagh added.

What's more, AcuBench has received a new WYSIWYG interface that generates complete COBOL programs. A new preprocessing utility, called Boomerang, accesses remote preprocessors.

HANDLING OVERLAP

The next major release is slated for 2009. Because both Acucorp and Micro Focus have ASCII-compliant compilers and runtimes, there is a lot of overlap between the company's software assets, Cavanagh said. Instead of going forward with two separate sets of technology, Micro Focus will be updated to handle all of the proprietary extensions developed by Acucorp and will reuse existing runtime code wherever possible, he explained.

"The end goal is a transition release for Acucorp customers that provides Micro Focus customers with new technology that is very valuable," Cavanagh added. ■

Startup Zafesoft Protects Code Behind the Scenes

BY DAVID RUBINSTEIN

Sandeep Tiwari doesn't believe people's freedoms have to be compromised in the name of security.

Tiwari is CEO of Zafesoft, a startup focused on source code protection, and according to him, unstructured data such as source code can and must be secured without a complex system. "Security should run in the background, without an interface or a log-in," he said, "or else people just won't use it. It becomes too invasive."

Source code files are routinely copied, e-mailed, pasted and printed, Tiwari said, because developers inside and outside of a business need access. Securing unstructured data so the digital file cannot be compromised, and so the company can maintain its credibility and any competitive edge it derives from the intellectual property, is the challenge.

Tiwari claimed that Zafesoft's namesake product protects the content, in contrast to digital rights management systems that protect the envelope but not its contents. Content monitoring and filtering systems can be beaten, he argued. That's because "CMF is a fingerprinting system. If I really want to take the file out, and not let the CMF system know, I can replace all the a's with two z's, and [change] all the e's to two exclamation points, so now the CMF system doesn't know the file—none of the fingerprints match—and it lets the file be moved," Tiwari explained. CMF systems, he claimed, are good for accidental loss prevention, where someone might not realize they don't have access to a file, but "if someone has intent to be malicious, [CMF] can't really stop it."

The Zafesoft solution consists of the Z Central Server, which the company hosts and uses to track "zafe'd" files anywhere they reside, and a Z Opener client that enables access to files in the system and performs encryption, Tiwari said. Companies can also use the Z Corporate Server, which works inside the firewall to watch every file in the system.

Zafesoft "keeps track of who opened the file, and what he did with it," Tiwari explained, noting that files are encrypted and decrypted on the fly, and if someone without access tries to open a file, an alert is forwarded from the server. Tiwari said Zafesoft licenses a third-party tool to perform the encryption functions.

A company employee with access rights can copy files, e-mail them to outside parties, or download them and work on them at home. However, the instant that person is no longer trusted, all his rights to the system can be removed, and those files become inaccessible to that person, without affecting the rest of the team.

The early release of Zafesoft, which came out in mid-September, can be used to secure Windows source code. The next release, which was due out earlier this month, will work with Linux. ▮

TIBCO MDM Follows the Process

BY DAVID WORTHINGTON

Applications in a service-oriented architecture (SOA) need consistent data. If there is no data integrity, and duplicate records are the rule of the day, applications that cut across multiple transactions cannot function or be reused with confidence.

TIBCO Software developed Collaborative Information Manager (CIS) to make consistency possible. CIS 7.0, which became generally available last month, includes enhancements that permit multidomain data management and distributed caching, aimed at improving performance.

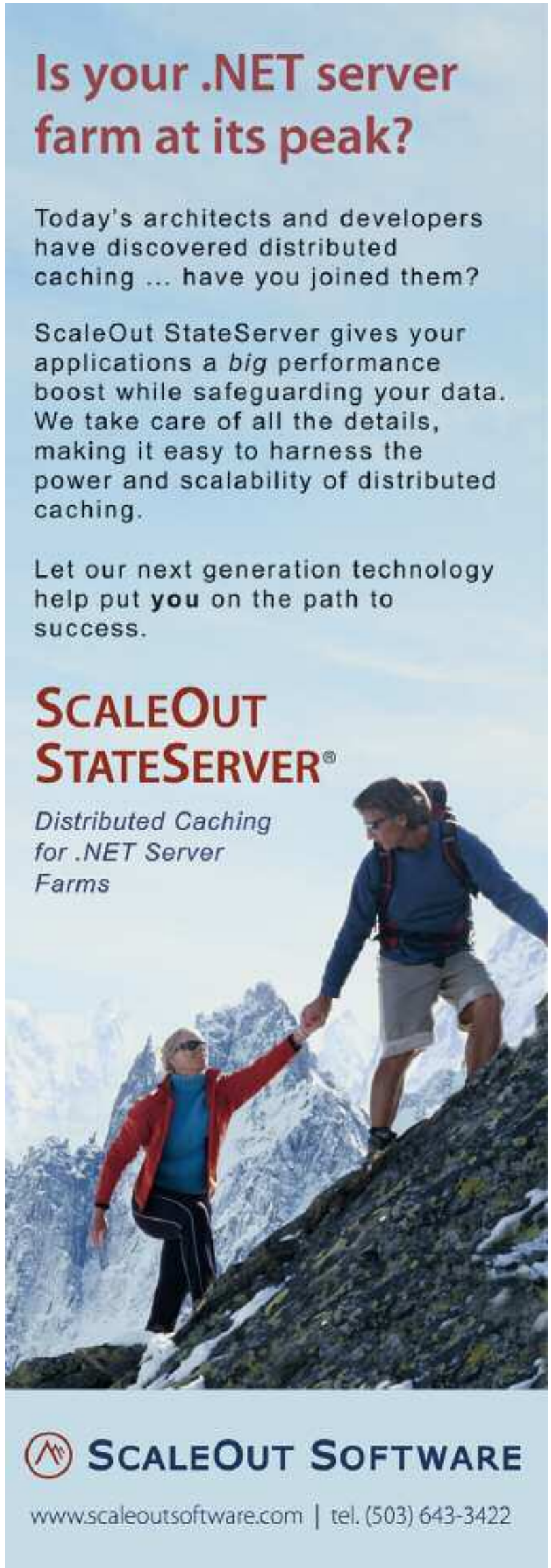
Multidomain management, or MDM, builds and maintains relationships through the application of attributes and rules across data domains. TIBCO has included Web services that access and modify information over business domains, and data importation facilities to retrieve hierarchical data across related catalogs.

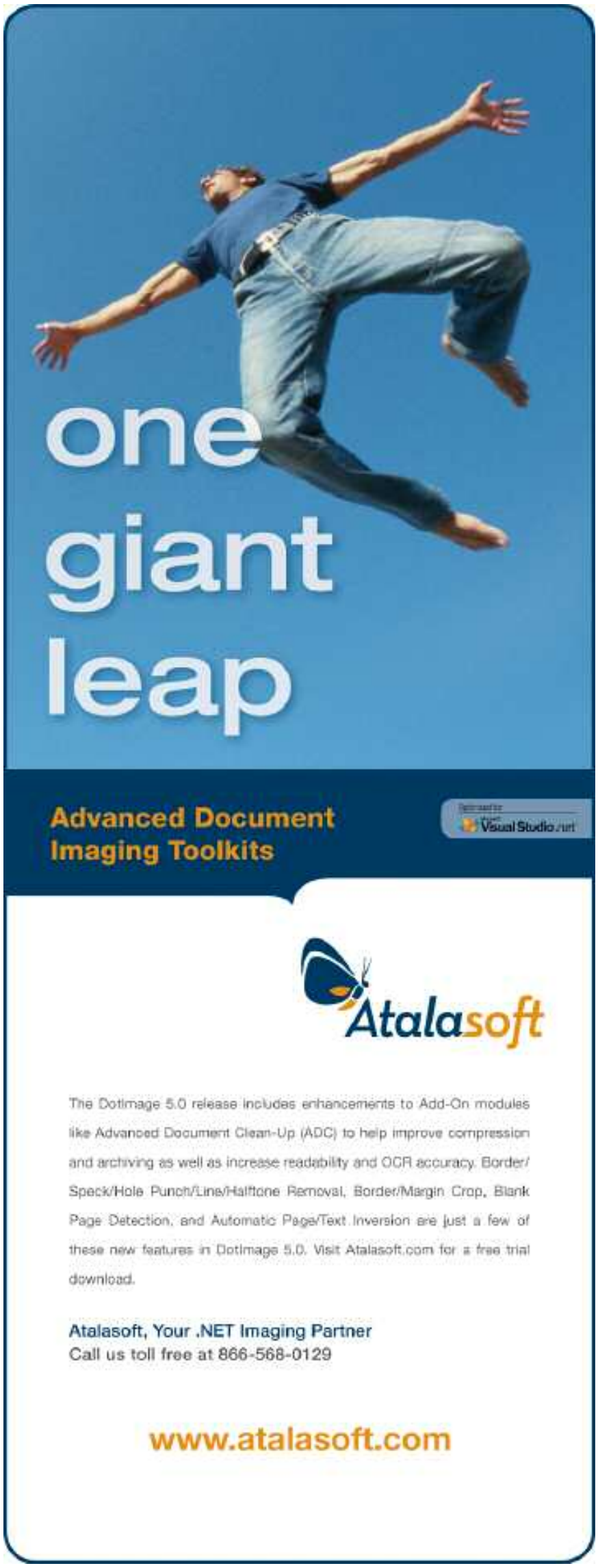
Distributed caching stores large volumes of data asynchronously and places records in memory for quicker importation of large datasets, and CIS 7.0 has faster processing of rules and workflow steps, explained Neeraj Gokhale, TIBCO's general manager of enterprise information management.

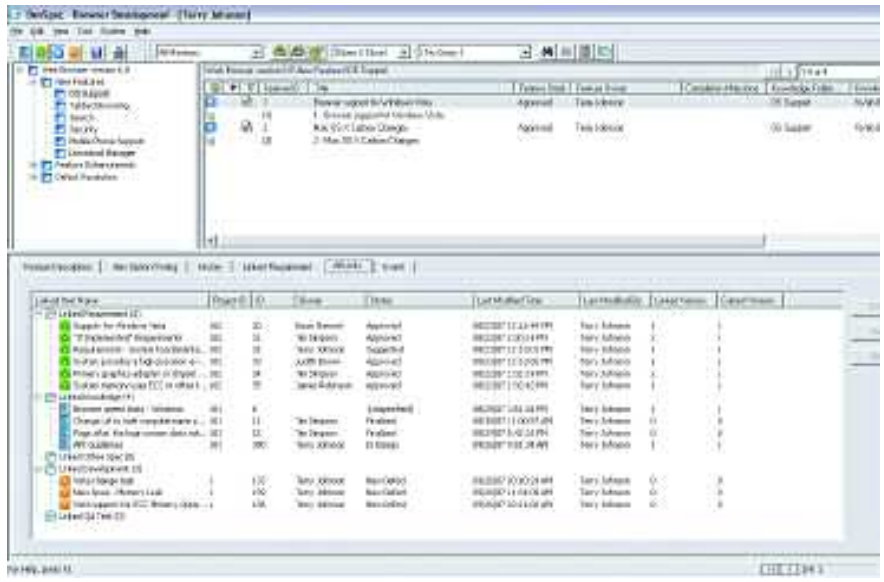
Enterprises have difficulty keeping data consistent because of unused or inconsistent processes, Gokhale remarked. In contrast, he said, TIBCO takes an application-centric approach to MDM where the life cycle of information creation and consumption is automated and defined in the application.

The CIS master database harmonizes master data and synchronizes it to all downstream systems needing it, aligning all business intelligence and SOA components, Gokhale explained.

TIBCO has also improved user interfaces for business users to import and export metadata, and has added role-based delegation as well as context-free search capabilities for more visibility across attributes and catalogs. "Business users are the rightful owners and consumers of information and should be a part of governance," said Gokhale. ▮







DevSpec provides automatic requirements versioning with its integrated framework.

TechExcel Enters Requirements Management Market Head On

BY JEFF FEINMAN

TechExcel added requirements management to its arsenal at its 2007 Worldwide Users Conference and Training Summit in San Francisco, held last month.

The company introduced DevSpec, an integrated requirements management framework designed to provide visibility and traceability in project requirements. DevSpec allows developers to create new requirements and specifications that can be linked to development and testing implementation projects.

DevSpec provides automatic requirement versioning that triggers whenever specified changes are made, and uses a central data repository—running on either Microsoft SQL Server or Oracle Database—for requirements and specifications.

DevSpec groups requirements into specifications, which can then be manipulated. Developers can prioritize requirements and be informed when any of the requirements are modified.

"The requirements can change, but that may or may not mean the specification changes," explained Paul Unterberg, senior product manager of TechExcel. "It's really up to the owners of the downstream development path and QA testing plan to look and see what this change means to them."

When asked what DevSpec will offer to customers that other tools won't, Unterberg pointed out its integration capabilities with all other tools in TechExcel's suite. For example, DevSpec's requirements management capabilities can work with TechExcel's project plan, development tracking or development testing tools. He also said DevSpec brings scalability. "If your teams are distributed, then the Web service nature of DevSpec helps them to focus on certain areas of work."

Alex Gaber, director of business development for TechExcel, said that DevSpec would compete in the requirements management space with the likes of Telelogic Doors and IBM Rational RequisitePro.

TechExcel kept the ball rolling at its user conference, and introduced two other products along with DevSpec. One of those products is KnowledgeWise, a repository for intellectual assets.

KnowledgeWise links ideas and customer feedback to specific areas of a development project. Documents can be shared with all parties involved in the execution. The .NET-based tool can be integrated with all TechExcel products, including DevSpec, DevPlan and ServiceWise, and can use a variety of database back ends, including those from Microsoft, MySQL and Oracle.

"From a product management standpoint, if I wanted to see what the top requested features of my product are, I can load KnowledgeWise, and based on those attributes that each document has, I can see the top requests," Unterberg said.

Another addition to TechExcel's product base is SpecDD, an agile development tool that starts with the premise that designs and requirements must be agile, but within a structured development process. Unterberg called it a "high-level framework that develops software, and measures designs around that development."

Unterberg said that, with these new products, TechExcel is trying to help businesses represent their ideal working processes in a way that's easy to implement. "Those processes can be modeled and enforced within our software, but they don't get in the way of people using the software. Our interface allows them to use those tools in a process-enforced way, and get meaningful data from that tool use." ▮

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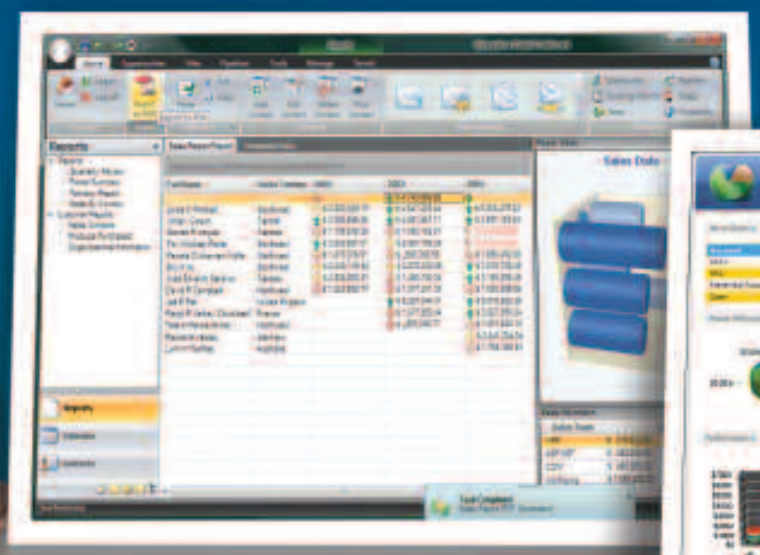

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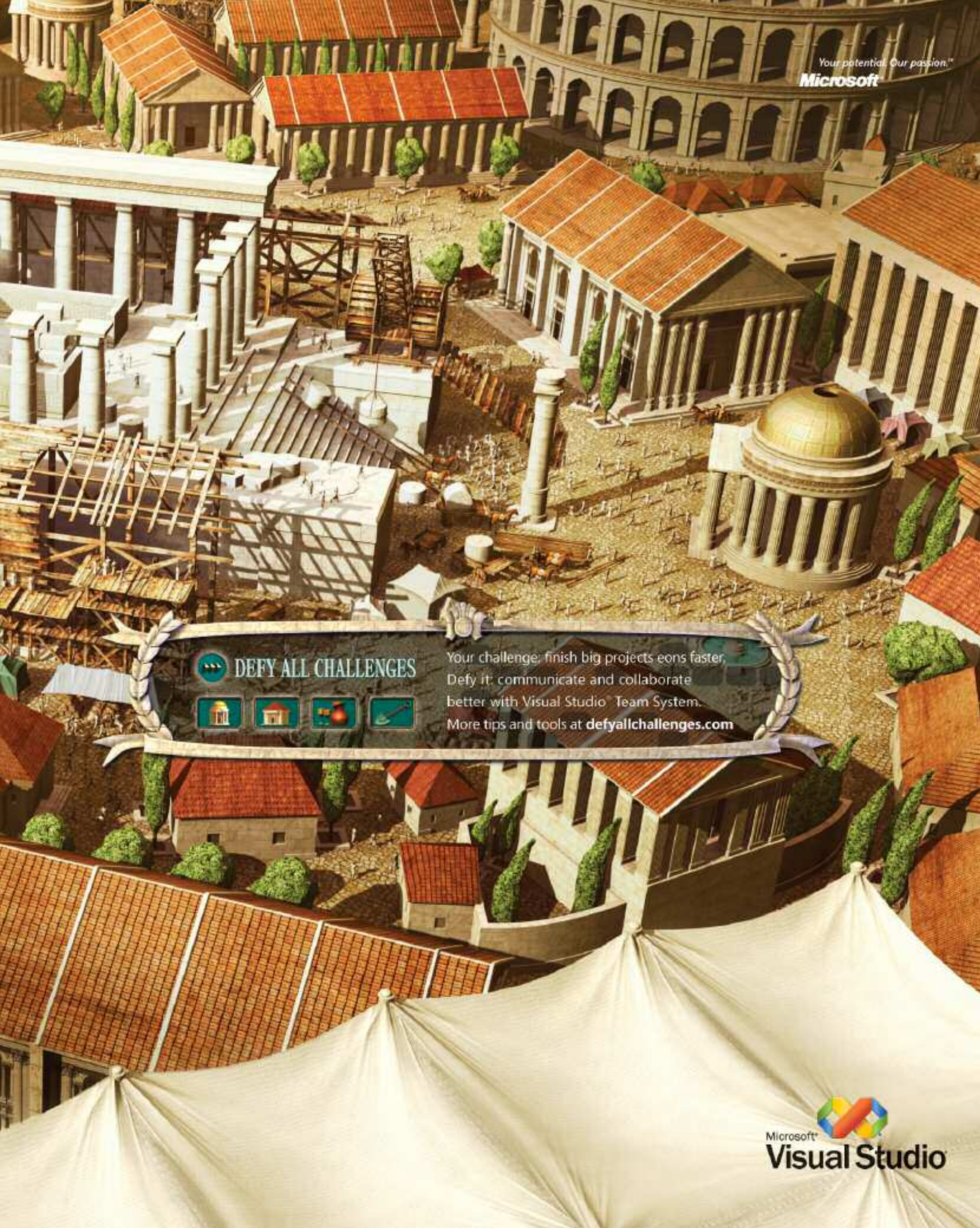
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Oracle Boosts BPM With SOA Tools

BY JEFF FEINMAN

Oracle in mid-September released an enhanced version of Oracle Business Process Analysis Suite. Company officials said that with the latest release of the suite, Oracle continues to enhance its portfolio of BPM capabilities.

The company called this release a major step forward in Oracle's delivery of a comprehensive BPM offering, consisting of the business process analysis suite and Oracle SOA Suite, as it offers a unique way of integrating the two suites. Thomas Gronbach, product director for Oracle Fusion Middleware, said that Oracle integrates its business process analysis tool with Oracle SOA Suite based on joined metadata. Changes facilitated in the technical model through Oracle SOA Suite are then available to the BPA suite as both models operate on the same metadata description.

"As a result, conceptual and technical models are constantly synchronized, allowing business and IT up-to-date insight into their joint process development, preventing a strategy-to-execution gap—a real innovation compared to previous business process management paradigms," Gronbach said.

The updated edition supports the latest versions of the BPMN (Business Process Modeling Notation) and BPEL (Business Process Execution Language) specifications. The suite integrates business process analysis with execution and monitoring tools, and offers customers closed-loop engineering and bidirectional synchronization capabilities. Execution tools such as the Oracle SOA Suite support the implementation or execution stage of the business process life cycle.

Both suites support the Process Blueprint format, Oracle's underlying common model format. ■

Nexaweb Gets Visual

BY JEFF FEINMAN

Nexaweb is keeping an eye on its visual development environment for building rich Internet applications.

Nexaweb on Sept. 24 released an update to its Enterprise Web 2.0 Suite, which builds AJAX-, Flash- or Java-based RIAs. The new version of the suite allows a user to incorporate and reuse third-party components. Bob Buffone, chief architect of Nexaweb, explained that the suite now offers what resembles a SOA feature set, as it has the ability to operate within an organization's governance infrastructure and create contracts between services, important features when building enterprise applications.

A main enhancement to the tool is the visual development environment that builds applications with drag-and-drop ease of use. "Having a better visual development environment really reduces the cost and time it takes to build applications," Buffone said. "The meat and potatoes of application building is laying it all out and having [applications] look correct." ■

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ER/Studio Now Defines XML Schemas

BY P.J. CONNOLLY

Governance and SOA implementation are two of the reasons Embarcadero Technologies updated its ER/Studio data-modeling tool with support for XML schema generation.

ER/Studio 7.5, released in mid-September, also adds tools for working with metadata from models, and a reworked conversion utility aimed at improving the quality of imported metadata.

The new XML schema generation wizard allows the use of logical or physical models, as well as submodels. Developers can drag and drop elements from the database design into the new schema, and the wizard can transform relational entities and their attributes, while defining naming standards and datatype mapping.

Adherence to naming standards is critical in data modeling, and a new utility in ER/Studio 7.5 attempts to address the problems users encounter by providing templates for naming standards that allow the use of different naming conventions for logical and physical models. The company also backfitted these features into ER/Studio's wizards for physical model generation, reverse engineering and XSD (XML Schema Definition) generation.

The overhaul of the MetaWizard utility was aimed at improving the conversion experience when importing metadata from CA ERwin, Sybase PowerDesigner and similar tools. ER/Studio 7.5 also includes updates to denormalization, dimensional modeling and reporting features, as well as tweaks to behavior with various relational database management systems. ▮

SOA Developers Get Testy

BY DAVID WORTHINGTON

Even the most talented developers require testing tools, and producing a compliant and reliable service-oriented environment requires a quality assurance process. Parasoft has augmented its tools to make possible a connection between the tools of developers and those of QA professionals.

Parasoft SOAtest 5.5, released Oct. 2, enables development teams to perform business process testing, load and performance testing, policy enforcement, scenario tests and unit testing. This release adds support for the Microsoft .NET Framework and Windows Communication Foundation.

SOAtest is multiprotocol and provides emulation capabilities for testing. It consumes the semantic information around protocols, making it easy to use, claimed Wayne Ariola, vice president of strategy at Parasoft.

A new automation feature, so-called intelligent stubs, emulates the behavior of applications within a production system. The stubbing capabilities emulate clients and servers, and allow consumers and producers to test from different entry points.

SOAtest 5.5 integrates with Microsoft Visual Studio Team System 2005; developers can use VSTS to execute, manage and share SOAtest projects. ▮

Backbase Bets Big on Broad Browser Support

BY JEFF FEINMAN

Backbase last month introduced an RIA-focused application server, Enterprise AJAX 4, offering compliance with a number of different browsers and an API that lets developers build applications in the programming language of their choice.

It works with Camino, Firefox, Internet Explorer, Netscape, Opera and Safari browsers. According to Michel Gerin, vice president of marketing for Backbase, this might be the most important feature in the release, due to the different implementations of JavaScript in each browser.

Enterprise AJAX 4 offers JavaScript and XML APIs that allow developers to create their application in the programming language they are most familiar with. The Enterprise AJAX architecture enables the use of third-party components such as Yahoo UI components, Dojo Widgets and Google Gadgets.

In addition, the new framework can integrate with other server platforms such as JSF, Spring and Struts. This is possible because the engine will communicate through HTTP requests using XML or JSON, Gerin said. There is a development plug-in for Eclipse and a browser-based debugger.

Gerin noted that anybody can pick up an AJAX widget and add it to their Web site, without having to deal with plug-ins. "Their philosophy must be if you can't beat it, embrace it," he said. ▮

Mega Modeling Maps Grand Plan

BY JENNIFER DEJONG

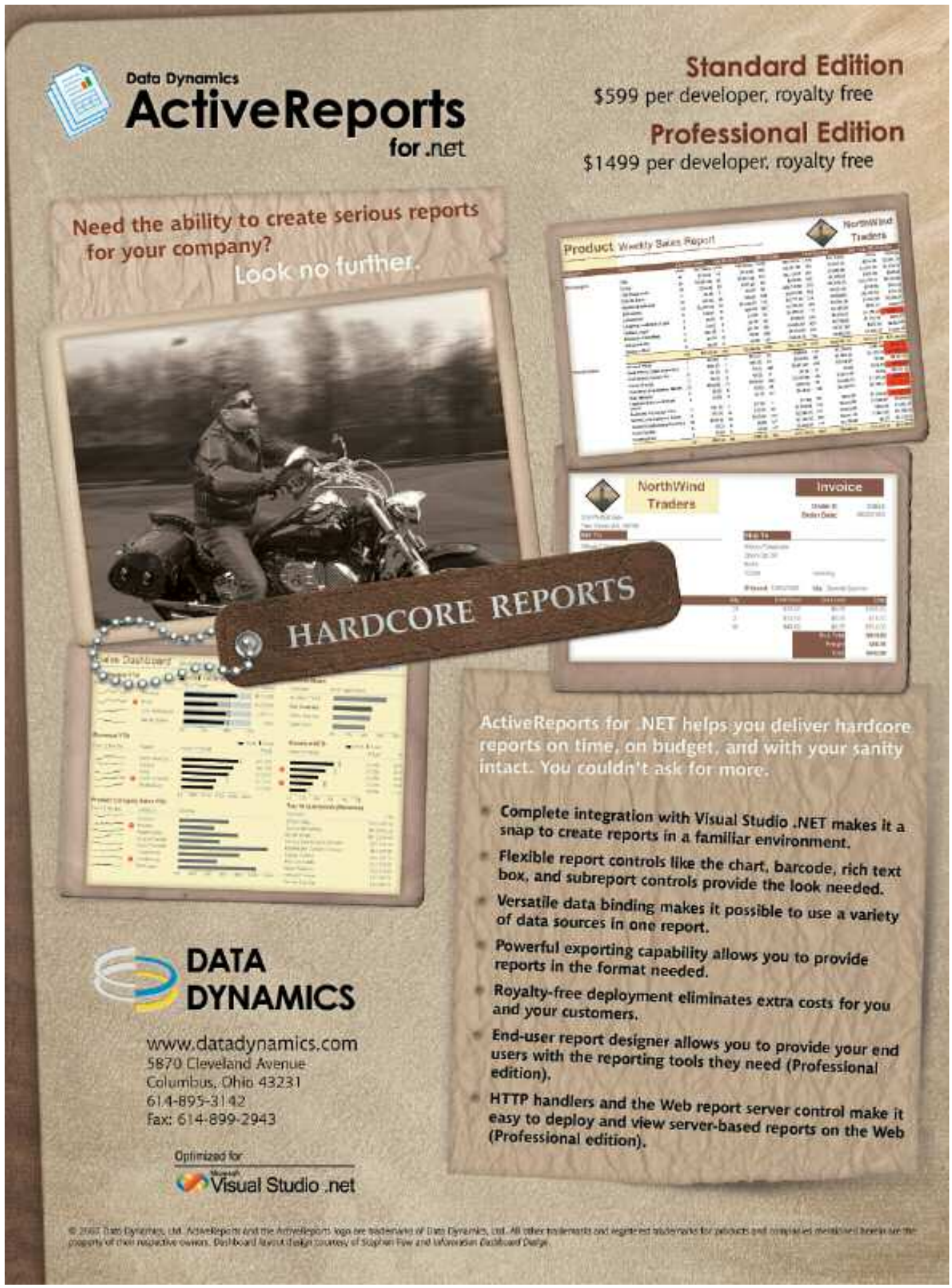
Mega International last month updated its enterprise architecture offering, adding reports that identify software components, applications and servers according to the business functions they carry out.

Instead of simply drafting a technical diagram that shows which applications are running on which servers, the new release of Mega Modeling Suite uses terminology that is meaningful to line-of-business professionals, said company vice president of solutions Terence Lee. For instance, a server with the applications and components that run on it might be identified by the term "travel management," indicating an application that lets customers plan trips, booking flights, hotels and rental cars.

Mega Modeling Suite, which starts at US$3,250 per user, is an enterprise architecture tool for diagramming components, applications, business processes and IT infrastructure. It supports the Unified Modeling Language, but Lee explained that it's intended for use as a mapping tool, not a development tool, so it does not generate code.

Instead, he noted, "it [creates] designs and hands them off to software developers." To ease that task, Mega Modeling integrates with IBM WebSphere offerings, and with Microsoft Visual Studio. A future version will also support Eclipse, he said.

Also new to the Modeling Suite is support for Web Services Description Language. ▮



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Oink Roots Out Bugs Via Data Flow Analysis

BY ALEX HANDY

It's 5:00 am. Do you know where your variables are?

For all developers, keeping track of information as it flows into and out of logic routines can be like juggling chainsaws. To help keep bad data from corrupting good programs, the open source project Oink and its related software have been tracking down issues using data flow analysis since 2003.

Now, the team behind Oink is trumpeting a host of format string bugs they've found in the Debian Linux distribution. It's all in the name of evangelizing Oink as an easier way to find holes before they are big enough for elephants to climb through.

Scott McPeak's Elsa C++ parser became the front end for Oink.

Scott McPeak is a senior architect at Coverity, and in 2003 he began work on a C++ parser that would eventually become the front end for Oink. Elsa, as he dubbed his project, takes source code and maps it all out into an abstract syntax tree (AST) that can be followed to see just how data is moving through a program. "The Oink layer on top walks over the AST, and when one thing is assigned to another, it calls out to an analysis that links these up. [It examines the] whole program's data flow," said McPeak.

Oink requires a back end to do the actual analysis. Usually, this back end is CQual++, a type-based analysis tool. CQual++ allows developers to find any type of bug that can be discovered using static time polymorphic data flow.

Daniel Wilkerson, another of Oink's three primary caretakers, and Karl Chen, a graduate student researcher at the University of California, Berkeley and a day-to-day maintainer of the Oink project, have been using their tool to find format string vulnerabilities in open source projects. One of the largest such troves of vulnerabilities they've found has been the more than 1,000 such errors uncovered in the Debian Linux distribution. Simply scanning the C++ packages contained in Debian yielded between 400 and 500 potential security vulnerabilities, according to Chen.

Writing a custom analysis for data flows is Oink's killer application, claimed Wilkerson. While CQual++ finds many common data flow errors, Oink provides facilities for developers to write their own analysis. For some projects, analysis must be tailored for strange and unique engineering practices. One place where this type of analysis can help is when one language points to a function in another. In this case, said Wilkerson, Oink can help to keep garbage collection from getting out of hand, by finding dangling pointers that aren't cleared out of memory.

Chen believes that Oink should be an integral part of a nightly build process. Wilkerson agreed, comparing bug fixing to Whack-a-Mole: For every six bugs one finds, six more will spring up after nightly check-ins. ▮

COMPONENTONE OPENS SILVERLIGHT GALLERY

BY DAVID WORTHINGTON

Microsoft's Silverlight 1.1 may be at the alpha release stage, but software companies are already writing controls that target it. Most of them are talking Silver, but ComponentOne is casting light on Sapphire.

Sapphire is the code name for ComponentOne's upcoming control suite for Silverlight, scheduled for release in conjunction with the Silverlight 1.1 runtime, and it is currently being previewed at the company's C1 Labs Web site. Sapphire's controls were designed to help developers create interactive, high-fidelity user interface applications for the Web.

ComponentOne's Sapphire Web site features a gallery of buttons, containers, date/time, lists, slides, text, video and other miscellaneous controls. As Microsoft adds functionality to Silverlight, ComponentOne will add paralleling controls to Sapphire.

The Sapphire release leverages ComponentOne's existing Windows Presentation Foundation component technology. Its controls will take advantage of the design features found in Microsoft's Expression Studio suite for animation, graphics and skinning. However, Sapphire currently lacks support for control/element styling, control sets, data binding, and the full feature set of Microsoft's Expression Blend interface designer.

"The Silverlight platform has really opened up a whole new world of interactivity that will dramatically improve the user experience and at the same time enable application developers and designers to create some very compelling cross-platform, Web-based solutions," Todd Schick, director of business development at ComponentOne, said in a prepared statement. ▮

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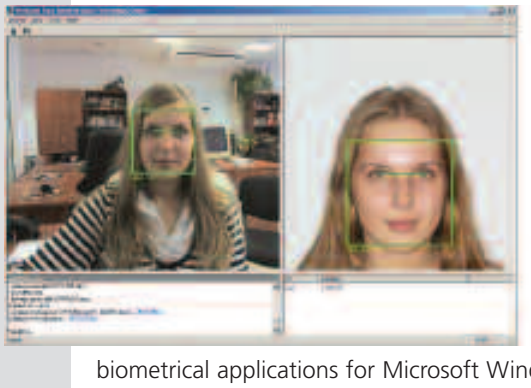
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Lawsuit Over GPL Starts Monsoon

◄ continued from page 1

infringing, because if they get caught they can just comply," said Ravicher.

Bernard Golden, author of the book "Succeeding With Open Source," said that the avoidance of trial might disappoint some in the open source community. "The biggest issue is that there isn't any case law about these decisions. I don't know that it is going to give everyone what they were hoping for, which is a final legal reaction to the license," said Golden.

LICENSE OR CONTRACT?

James Grimmelmann, associate professor at the New York Law School, doesn't believe the GPLv2's validity is keeping people up at night. "It's not as though people working with the GPL act as though it's in serious doubt," said Grimmelmann. But he did point out that there is one issue surrounding the GPL that courts could yet resolve: Is it a license or a contract?

While the software community is certainly convinced that the GPL is a license, Grimmelmann postulated this issue as an angle of attack against the GPL, and the only one that he currently sees as a threat.

"A contract is: You and I meet and we make a promise to do something. There are agreements going in both directions. A license is: I have my copyrighted piece of code and I give you permission to use it in various ways, but the permission is revoked if you violate these conditions. This matters in the formal legal analysis, because if it's…a contract, your promise to publish source and respect freedoms are just that: promises. If you break the contract, you pay me some money. Your promise wasn't conferring economic value to me," said Grimmelmann.

Without conferring economic value, the courts have no monetary basis to form their opinions, he added. While license law is a big hammer of enforcement, he said, contract law is a somewhat smaller hammer. Grimmelmann pointed out that contract law could be just as binding and enforceable, however, given a motivated court.

Further muddling the issue is the SFLC's midsuit change in tactics. Initially, the SFLC issued a statement declaring that the only punishment it sought against Monsoon Multimedia was compliance. Five days later, when Monsoon Multimedia agreed to comply, the SFLC changed its tack and stated that compliance was not enough.

Grimmelmann suspects this is a change of heart by plaintiffs Andersen and Landley. "It's a classic problem in the law world…the people who have a strong public interest mission have to make their arguments in the context of particular cases," said Grimmelmann. "If a particular client really wants to push a case hard, the attorneys can't say no."

Theresa Bui Friday, co-founder and vice president of marketing at IP protection software company Palamida, said that her customers aren't as concerned about the validity of GPLv2 as they are with the new provisions in GPLv3. Friday said that her customers are not asking "specifically about Monsoon. But certainly, since GPLv3 launched, we had a lot of questions around GPLv3 and GPLv2, in general. They are primarily from our customers who are from the embedded world; companies who ship embedded Linux for a living." She added that the most commonly asked questions revolve around the new digital rights management provisions in GPLv3, and around compatibility between GPLv2 and GPLv3. ▮

Ada Finds New Life in .NET

BY DAVID WORTHINGTON

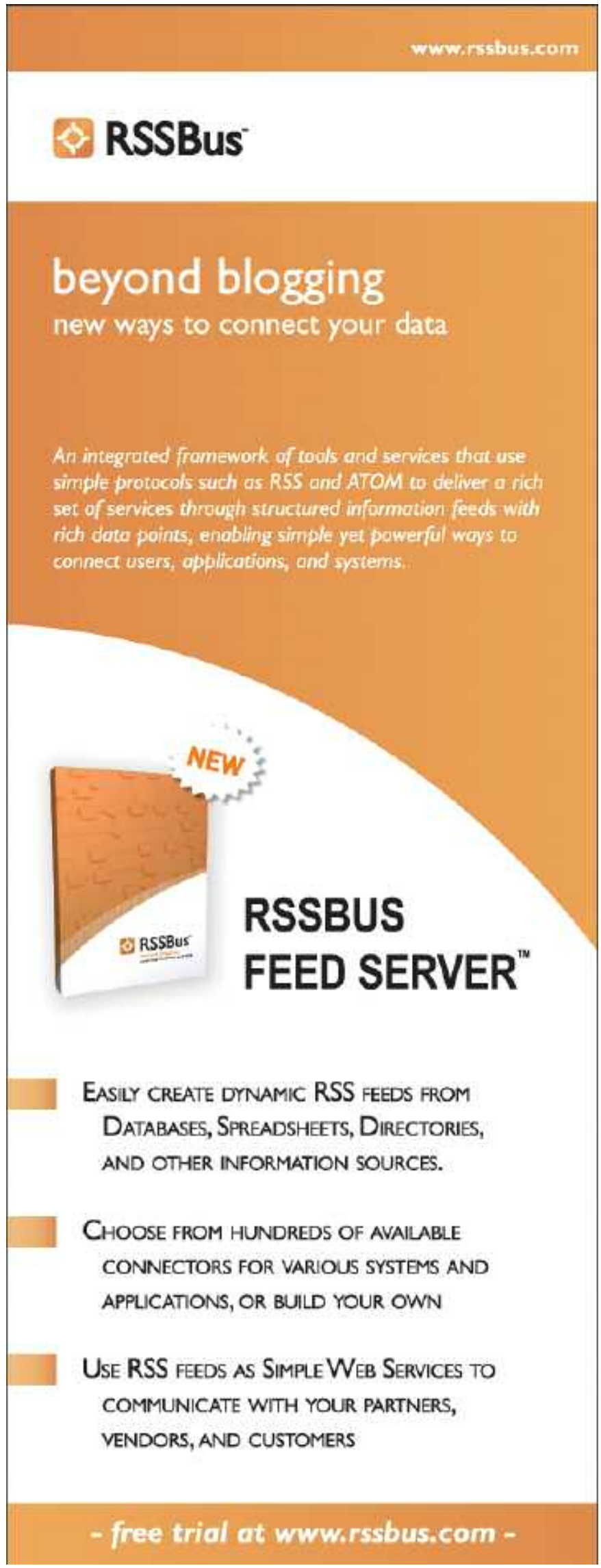
Visual Basic and C# on .NET? Of course. But older languages are also available for Microsoft's managed runtime, like Fortran and COBOL. Add Ada to that list: In mid-September, AdaCore rolled out GNAT Pro for .NET, the first commercial implementation of Ada 2005 for .NET.

The new release includes an Ada 2005-compliant compiler that produces Microsoft Intermediary Language (MSIL), and also provides a tool set with supplemental bindings and libraries.

AdaCore senior software architect Benjamin Brosgol explained that GNAT Pro makes full use of the .NET APIs and facilities. The APIs can be called from Ada through GNAT's binding tool, enabling the reuse of components. Likewise, developers can use Visual Studio to edit Ada code.

Microsoft provided some technical assistance to AdaCore, Brosgol noted.

He described the port as an interesting migration path for the technology and discussed several scenarios that it enables. Brosgol explained that developers could use GNAT to run an Ada application on .NET without any code modification whatsoever, or create multilanguage applications, as well as use Ada for its inherent scientific capabilities. ▮



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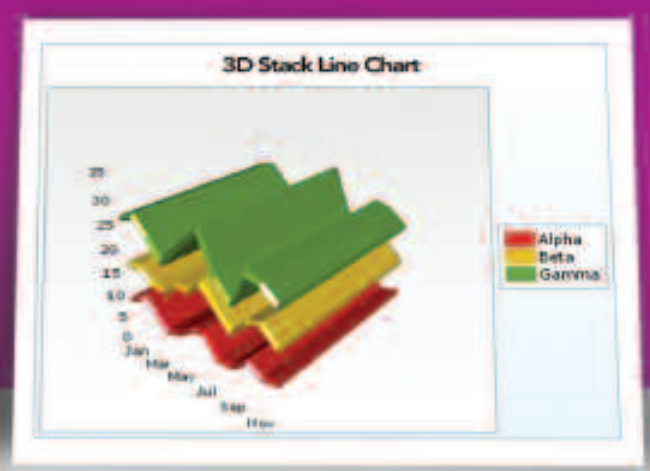

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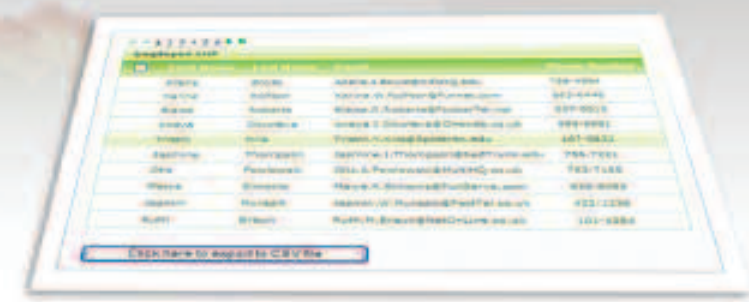

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Is RAD a Concept in Decline?

◄ continued from page 1

tional RAD is still very much alive.

Enderle claimed that RAD is quietly dropping out of software ecosystems because people feel it isn't needed anymore. The drawbacks, such as reduced scalability, seem to exceed the benefits, he said.

When RAD was first introduced, it was positioned as an alternative to classic "waterfall" methodologies. Before RAD, noted Enderle, requirements would change faster than software could be developed. But since then, he claimed, ordinary development tools are fast enough that deadlines are met without requiring specialized RAD tool sets. Advanced languages such as C and C++ have become much more powerful, and tools are now created with more focus on having a product move quickly through the life cycle.

IS AGILE THE NEW RAD?

Michael Swindell, vice president of products for CodeGear, believes that the RAD market has changed, with traditional RAD processes evolving into agile ones. Agile processes, he said, use RAD techniques that include rapid iteration and rapid prototyping, but agile is a much broader process with its focus on team interaction and time boxing.

Swindell cited differences between the traditional processes of RAD and RAD tools on the one hand, and frameworks such as CodeGear's Delphi and RAD Studio and Microsoft's ASP.NET that have evolved to support the need for agile development on the other. Today's frameworks are extensible and open, he noted, with the ability to see source code and direct access to operating systems and hardware.

Meanwhile, Sue Dunnell, product manager for Sybase's PowerBuilder RAD software, has a very different take on RAD— that it is still very much a legitimate development method. Dunnell pointed to Eclipse and SOA as modern examples of RAD in action.

"RAD as a concept is used constantly," she said. "It's used in virtually every new product and utility that's out there, and developers expect everything to be drag-and-drop, easy-to-code, and all that."

But Enderle and Swindell seemed to agree that the concept of RAD is essentially obsolete. "The RAD concept was a point solution to a problem that existed with older tools that simply took too long to go through the full cycle, but the shortcoming doesn't really exist anymore," Enderle said. "Speed is now a core function of any development effort, and it appears most folks can address the timeliness of a product without dropping into a RAD tool to accelerate delivery."

Swindell concurred: "We've seen the strict RAD process decline over the years to be replaced by agile development and agile processes. As companies are moving towards agile processes, the idea of rapid development hasn't gone away; it's just that a closed-box type of RAD environment like the old PowerBuilder where they would black-box runtimes with fixed functionality built into them—that idea has gone away."

Dunnell bristled at the notion, arguing that RAD tools were "built to evolve. With PowerBuilder, we simplify development. With AJAX, for example…[users] click a check box to use AJAX, and under the covers, we do all the hard work."

But Enderle sees RAD-centric tools such as PowerBuilder as antiques, noting that RAD is no longer a primary way to address a fundamental development problem, and merely a point solution that can be used while developing with a mainframe or legacy platform. Yet RAD as a concept still hangs on, Enderle said, because "it takes a long while for a technique like this to purge itself." ▮

THE BEST THING SINCE 8-TRACK?

Images Courtesy of Ford Motor Co.

Ford Motor Co. is rolling out its new Sync voice-controlled communications and entertainment system in a dozen 2008 models under the Ford, Lincoln and Mercury marques. Sync is based on the Microsoft Auto platform, which uses Windows CE as a foundation. The system offers Bluetooth connectivity and control for mobile phones, and a USB connection with even greater control for media players such as Apple's iPod and Microsoft's Zune, other media devices conforming to Microsoft's PlaysForSure specification, and even simple USB flash drives. Ford claims the voice-activated device control, which supports English, French and Spanish, requires no training by the user.

Platform-as-a-Service Built by Force

◄ continued from page 1

and former managing director of the CRM practice at research firm Aberdeen Group, said the Force.com platform-as-a-service is a natural progression from software-as-a-service.

"With the introduction of Force.com and some of the other tools we've seen recently, virtually any application you can think of can be built using on-demand development and deployment technology. There are a lot of applications that haven't been [formally] built in an organization, or are [built on] spreadsheets or PC tools. Those tend to be separate from the IT superstructure. Those applications also tend to be maintained at the department level, and if someone leaves or gets hit by a bus, you may not have the wherewithal to maintain that," said Pombriant.

These applications, he added, are perfect candidates for moving over to the new Force.com platform. Therefore, said Pombriant, Salesforce's new platform isn't just for developers starting from scratch on new applications.

'[Salesforce has] some very, very large customers, and those are the people propelling them to build these new tools and services.'

—Denis Pombriant, founder, Beagle Research

Pombriant expects the most likely customers for Salesforce's new platform to be those that have little time and money to spend on critical application development. When it comes to integrations, he said, these same customers are much more likely to need tailored solutions.

"I think there is not one clear path, but there are probably two or three. These paths are very well paved," said Pombriant. Those paths flow through the Salesforce API, through third-party solutions from companies like Informatica or integrations consultant firm Bluewolf.

When asked if the market was ready for a platform-as-a-service, Pombriant said, "Economics are always going to drive this market. There's a strong demand for it that is more financially and economically responsible to the organization. I think we're probably at a good time for them to begin rolling out this tech. They have some very, very large customers, and those are the people propelling them to build these new tools and services. It's a question of time before the smaller ends of the market embrace it." ▮

Embedded Systems Conference BOSTON

Software Embedded Deeply at ESC

BY DAVID WORTHINGTON

BOSTON — Unlike previous years, software was not on the back burner at this year's Embedded Systems Conference (ESC), held here in mid-September under the umbrella of TechMash 2007.

On opening day, **AdaCore** announced a new addition to its high-integrity family. GNAT Pro High-Integrity for Servers is designed to enable mission- and safety-critical applications to run on native platforms. Some of its features include a configurable Ada runtime library, integration testing facilities and multilanguage compile system.

The company also released the new GNAT Stack, which examines source code and performs data and control flow analysis, determining the maximum stack size for a specific task. It is particularly useful with the High-Integrity product line, said AdaCore senior software architect Benjamin Brosgol.

Common sense dictates that there is no room for failure in safety-critical systems. With that in mind, **GrammaTech** found its niche producing automated defect-tracking software to help developers eliminate bugs early in the development cycle.

GrammaTech has paired its static analysis engine with a Web-based defect management system and database. The solution, dubbed CodeSonar Enterprise, is designed for large development teams and permits managers and test teams to collaborate on C/C++ code analysis results across the organization.

CodeSonar's groupware features can be used to assign bugs, annotate warnings with state information, and store historical information to maintain an audit trail that enables trend reports and detailed sorting. Paul Anderson, vice president of engineering, noted that new rules for safety-critical development would be folded into upcoming point releases.

Additionally, the CodeSonar static analysis engine has been fine-tuned for accuracy and has shorter examination times. CodeSonar Enterprise will be available in Q4.

Hitachi's Embedded Business Group showed off version 2.2 of its Entier embedded relational database management system. The new version has built-in control of concurrent transactions for multitasking operating systems, new update capabilities, and can simultaneously access multiple databases using its high-performance Data Manipulation Language.

Entier's core search technologies were augmented to increase the performance of short text strings for complex word searches. Hitachi added the ability to search through geo-spatial data and perform conceptual searches, as well as alias searches, complex test searches and incremental text searches.

Collin Bruce, director of marketing for Hitachi Entier, said that this set of features will allow end users to "search the way that they think."

Lattix announced the release of its namesake architecture management software, incorporating new modules for Ada and C/C++ into Lattix 3.5 that integrate with Scientific Toolworks' Understand reverse engineering IDE and tool. Lattix 3.5 remains based on the Dependency Structure Matrix, an approach that records dependencies and uses them as the foundation for a blueprint that incorporates applications, databases and systems.

Parasoft is thinking C/C++. New automated testing capabilities in Parasoft C++test expose runtime errors without actually executing an application. C++test has static analysis capabilities that simulate application execution paths and determine whether the paths could cause errors.

IBM's looming acquisition of **Telelogic** has not slowed the latter's momentum, as Telelogic has continued to customize its Rhapsody modeling environment for vertical markets. Telelogic demonstrated its latest vertical SKU, Rhapsody for Automotive, to selected viewers at ESC. This is the company's second vertical, following Rhapsody for Telecom.

Rhapsody for Automotive complements existing solutions by integrating behaviors and computational algorithms from existing IP. ■

P.J. Connolly contributed to this story.

Solidware Wants To Raise 'Code Intelligence'

BY DAVID WORTHINGTON

BOSTON — Where would marketing executives and operations managers be without business intelligence? Quite possibly, where software programming managers are today—without quantitative, at-a-glance project information.

But Solidware Technologies believes it has a solution that will allow managers and teams to truly "know their code."

At the Embedded Systems Conference here in September, Solidware released SWaudit 2.0, an update to its software auditing platform for Java that correlates data from coverage tools and static analysis tools, and uses key metrics to look for failure modes, or interactions of failure modes.

Solidware SWaudit has an absolute dashboard that rates the quality risk of source code builds.

"We layer intelligence over tools," explained Solidware CEO Sue Kunz. "The concept is not to just throw people at the problem, [but instead to] use CPU cycles." According to Kunz, "there is a lot of heavy analysis people will not do."

Kunz defined code intelligence as key to understanding software readiness: whether code is of unknown quality or in development. Version 2.0 of SWaudit introduces dependency mapping, architectural integrity analysis and other analytics, including configurable static analysis and risk-to-test coverage correlation.

Results are displayed as high-level dashboards and summaries that identify failure-prone code. However, more detailed information that is geared toward developers and white-box testers is also generated. ■

MICROSOFT TO REFRESH EMBEDDED OFFERINGS

BY DAVID WORTHINGTON

BOSTON — Microsoft showcased its continued investment in the embedded space with the announcement that both the .NET Micro Framework and Windows CE 6 will be refreshed with new components, features and fixes.

Microsoft is adding a lockdown feature to the .NET Micro Framework, and a service pack will include facilities for signed firmware updates and will provide the ability to disable Visual Studio debugging.

The framework update will also add a font-building capability, along with various bug fixes and emulator improvements, said senior product manager Jonathan Kagle. Microsoft will also be implementing the Devices Profile for Web Services. The service pack is presently in beta and is compatible with Visual Studio 2005.

Windows CE 6.0 R2 is slated for release in November. Its kernel will be unchanged, but Microsoft is adding new components that target the home and industrial automation markets. ■

LABVIEW 8.5 ZEROS IN ON MULTICORE

BY DAVID WORTHINGTON

BOSTON —National Instruments is no stranger to multicore processors, but some developers are. With that in mind, the company developed version 8.5 of the LabView graphical design platform with new automatic multithreading capabilities.

LabView 8.5 automatically creates the optimal number of threads based on the total number of cores available and supports symmetric multiprocessing, the ability to assign particular tasks to a specific processor core, said Jeff Meisel, LabView Real-Time product marketing manager, at the Embedded Systems Conference here.

It also includes thread-safe drivers and libraries to improve application throughput, and developers may use LabView's parallel dataflow language to map applications to multicore and FPGA architectures.

In addition, the release targets the embedded and industrial applications space with a new stateflow design module that can be used to model and implement system behavior and new I/O libraries. ■

Green Hills Rolls Into ESC

A new RTOS, wireless middleware, virtualization are on the agenda

BY DAVID WORTHINGTON

BOSTON — Green Hills Software came rolling into the Embedded Systems Conference (ESC) here last month with more on its agenda than a tea party. Like a cup of chamomile, Green Hills soothed its customers' nerves when it announced the availability of a ThreadX-compatible real-time operating system, and revealed new middleware and an extended virtualization offering.

Green Hills was a reseller of Express Logic's ThreadX RTOS for nearly a decade, until Express Logic terminated the reseller agreement in early 2006. That June, Express Logic sought arbitration, alleging that Green Hills illegally copied the ThreadX API in the Green Hills μ-velOSity microkernel. An arbitration panel denied all of Express Logic's claims in August of this year.

Green Hills' customers now have two options: They may continue to use μ-velOSity, or use the new ThreadX-compatible RTOS. The replacement does not require any modification of production code, said Dan Mender, Green Hills' director of business development.

When not selling peace of mind, Green Hills was pitching security at ESC in both wireless and virtual flavors. The company released extensions to its Secure Wireless Devices Platform. The platform now includes extended Wi-Fi security, Cisco Compatible Extensions, Wi-Fi Protected Setup and reference drivers for leading Wi-Fi chipsets, and targets vertical industries. According to Mender, Integrity is certified as secure by the U.S. Federal Aviation Administration and the Food and Drug Administration, as well as the National Security Agency.

The Integrity operating system now supports Intel's vPro processor technology, which pairs dual-core 64-bit processors with a networking chipset for networks using 802.1x or Cisco's Network Admission Control, offering integrated hardware-based security, remote management features for PCs and virtualization capabilities.

Integrity PC works with Intel vPro to perform a secure boot in which BIOS, hardware and the Integrity kernel are measured to provide what the company calls a trustworthy execution environment. Integrity can run as the host operating system, with secure Linux or Windows partitions, without fear of cascading events, Mender explained.

Integrity can also add native applications in parallel with Linux and Windows off-the-shelf applications to the user mode, on top of Integrity.

"Point-of-sale transactions can happen through Integrity [instead of] Windows or Linux. That eliminates the possibility of corruption at the device level," said Mender. "People aren't addressing security in virtualization." ▮

Virtualization Becoming a Factory Option

BY P.J. CONNOLLY

Virtualization is quickly moving from being an add-on to becoming as integral to a computing platform as firmware. Operating systems preinstalled at the factory are nothing new, but XenSource has taken a new step in providing what it calls the first embedded virtualization platform for OEMs.

"Our products should be simple and powerful enough to be embedded in every server as an extension of the hardware platform," noted XenSource's Frank Artale, vice president of business development.

XenExpress OEM Edition, which was announced in early September, allows the inclusion of a full virtualization platform at the server component level. It can be delivered in system flash or on the hard disk, and works with both Microsoft's and VMware's virtual machine formats, and takes advantage of hardware-based virtualization features in new processors from AMD and Intel. Servers can boot with multiple BIOS partitions and be ready out of the crate for virtual machine installation.

XenExpress OEM is expected to enable the delivery and use of value-adding extensions, allowing vendors to ship systems with embedded secure partitions for management, recovery and security. Customers purchasing machines with XenExpress OEM Edition will be able to upgrade to the company's XenEnterprise, although specific details such as pricing were not available. ▮

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Spreading the Agile Practice

Extending new processes beyond a single project team presents unique challenges

BY DAVID RUBINSTEIN

Many organizations have begun to reap the benefits of agile development on their internal projects—shorter time-to-market, better quality software, more team productivity. Now, they want to know how to get those same advantages when doing agile development throughout a distributed team.

The answer? Get a Subversion code management system, a Webcam for whiteboard meetings and a speakerphone.

Of course, achieving agile success with a distributed team is quite a bit more complicated than that. But three principles—the ability to share plans, access the code from a single repository, and communicate effectively—form the cornerstones of spreading agile processes over disparate locations. Then, experts agree, the members of the team must be highly competent and working in an environment that fosters trust, provides a feedback structure, and gives visibility across business and development efforts.

One of the messages of agile is that it improves quality. Andrew Glover, president of the consulting firm Stelligent, said that's the wrong message. "People don't want to pay for quality. You say quality, people think QA, and QA has no money. Switch out 'quality' with 'delivery speed,' and people start buying it," he said.

The core principles remain the same regardless of the specific agile process in use; although at the recent Agile 2007 conference, a number of consultants and developers mentioned that distributed agile development is most effective when Scrum is used in tandem with Extreme Programming, or XP. Scrum provides the overarching management structure, while XP is in place at the developer level where the coding is actually done.

Before any code can be written, though, it's important to get everyone on the same page. Several experts suggested bringing the teams, or at least representatives of each team, together before the project begins in a sort of common architecture design meeting. "It's important for teams to get familiar with each other before they are dispersed," said Paul Hodgetts, CEO of agile consultant practice AgileLogic. "It's costly, but the benefit offsets the cost and helps the project not drift off."

Scott Ambler, a noted author and agile development practice leader at IBM, agreed, saying, "You have to be willing to fly people around. Penny-wise and pound-foolish leads to disaster." It's important to build bonds at the beginning of the work, and then use "ambassadors" to travel back and forth to overcome communication challenges and, in the case of teams located abroad, knock down cultural barriers as well, he said.

GETTING TOGETHER

The creation of a collaborative work environment, and having people skilled in project management, are important first steps in taking agile into wide use. "If you're not good at managing a single location, you've got no shot at a distributed agile project," Ambler said. He also suggested there is a bias among American developers, who he said believe they can do a better job than overseas developers. But you might have a CMMI Level 3 U.S. team managing a Level 5 team from India, "and that's backwards," he explained.

However, Peter Harrison, CEO of outsourcing company GlobalLogic, said American developers actually do have more experience than teams abroad, and that no bias exists. "The average outsourcer today has two to three years' experience, while in the U.S., the average [outsourcing] experience is eight to 10 years. You can't have peer-to-peer relationships as effectively. You need true peers on each end."

Doug Mow, senior vice president of Exigen Services, an outsourcing company, said, "You need an elite organization committed to its reputation." Team members, he said, need to be teachable and willing to learn.

But communication, Mow said and several experts agreed, is the main hurdle to overcome. Some use conference calls. Some use Skype or set up wikis. But Harrison advised, "Get rid of e-mail. It's a disaster." Often, people who need to know about an aspect of a project are not copied on the e-mail, or a thread gets broken and the context of the message is lost, he explained.

Some organizations find that as they try to ramp up their agile efforts, the original agile team loses productivity when the team leader is moved to another team to get it going. "Training is essential, and having a good mentor on every project is crucial," Harrison posited.

Serena vice president of ALM products John Scumniotales said, "Until agile behaviors get institutionalized, you'll see productivity wane when a Scrum master moves from the first project" to another.

WHAT DO THEY WANT?

More traditional waterfall methods involve soliciting input from the business side, writing high-level requirements and themes, and performing technical analyses for implementing features—before any code gets written. In contrast, agile processes advocate less up-front planning, emphasizing flexibility in reacting to changes. But any development project starts with a set of requirements, no matter how simple.

"Most agile teams haven't used classical requirements modeling and a big specifications document," said Tom King, executive vice president at requirements modeling company Ravenflow. Instead, "they sketch models on whiteboards and do lightweight use cases." However, King noted that a developer in Bangalore might make incorrect assumptions when filling in gaps in lightweight requirements.

It's important, then, to be able to share whiteboard sketches electronically—a virtual standup meeting, if you will—so business analysts and other stakeholders can review the requirements diagrams. In fact, a recent survey completed by Ambler showed that lightweight use cases and informal stories rated high among agile developers, while formal specification documents scored low.

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Extending Agile Practices to Distributed

◂ continued from page 41

"When projects took six or eight months to complete, needing a month for requirements was OK," King said. But with today's eight-week completion times, four-week requirements phases are "out of proportion."

Another approach is to do visual prototyping, according to Mike Evans, director of the customer enablement team at Skyway Software. "It's actually visual requirements gathering. A solution architect sits in with the team during requirements gathering and builds out the framework for the application. In two to three days, he can create a running prototype of the application to prove the requirements." Then, instead of a prototype of requirements, you have a prototype of the actual application, which can then be taken into development. "It's a predictive model for building the application based on a prototype that maps back to the requirements. It gives a truer picture of the time and cost before you even start development."

Compounding the problem of communicating requirements is the difficulty in writing tests that prove the requirement has been met. "Often, there's miscommunication about the intent of the feature, or how to test it," said Kingston Duffie, founder and CTO at device testing software company The Fanfare Group, which runs agile development teams in New Zealand, Russia, Vietnam and other locations overseas. "QA is the low-hanging fruit. They're under the greatest stress, and business people don't know how to communicate on their level. Also, they usually have the shortest time to do their work." So creating a transparent document that defines what a test is and how to define success, instead of simply offering up more code, enhances communication, he said.

FORMULA FOR SUCCESS

There are some critical steps to take to succeed in applying agile practices to distributed development teams. According to Peter Harrison, CEO of outsourcing company GlobalLogic, they are:

- **Have familiarity ahead of time.** Teams must have working knowledge of one another, for confidence and trust. Harrison calls this a "human-driven engineering form."
- **Put together a senior team.** The more experience you can gather, the easier overcoming hurdles can be.
- **Make sure time overlaps.** Teams should work together a minimum of two hours per day, or any agility you have will atrophy away. "No overlap is a recipe for disaster," he says.
- **Never leave your in-basket full at the end of the day.** If you set up a round-robin-type arrangement of handoffs, you can extend your day and shorten your cycle.
- **Leverage technology to the fullest.** Wikis and workflow-type products for managing time, requirements, tests and tasks "have made life so much easier," Harrison says.

IS IT BUILT YET?

Agile processes call for frequent builds. But organizations must decide if that means every half-hour or four times a day. Further, some experts say a single, centralized repository that offers high visibility is essential to effective distributed agile development. But how does it all tie together?

Resource management is the answer, because even when the code is centralized, there still will be people trying to run their own things. "You want to provide multiple 'lanes' of builds to get them going simultaneously," said Martin Van Ryswyk, vice president of engineering at build management software provider Electric Cloud. "Now there is no 'overnight' with a five- or six-hour build and then spending the morning solving problems of the night before. You've got to be able to do things fast, or you don't get the benefit of few check-ins with each build. If you can [build] more often, it breaks big problems into small ones that are all in one place."

Equal to the central repository is the need to get an accurate record of the builds. "Everyone needs to have access to the data so things can be kicked off [to developers] to see what happened," Van Ryswyk said. This also enables teams to take advantage of the round-the-clock development opportunity that distributed teams can provide. "Folks in India can see how [code] was checked in and perhaps fix it. They don't have to wait for a California development team to come in the next morning to fix it." A centralized build farm, he pointed out, means an organi-

Teams Presents Unique Challenges

zation doesn't have to support redundant hardware resources to do continuous integration.

Continuous integration also provides measurement and accountability, according to Stelligent's Glover. "Continuous integration and build automation with reporting gives tremendous visibility." That visibility, he noted, raises the level of accountability, as all can see where a problem was introduced into the code. "Is humiliation a good thing? Not necessarily, but it motivates developers to not break the build again," he said.

Two open source projects—the automated Cruise Control build framework and the Hudson continuous integration engine—are getting more sophisticated, Glover said. "These poll the SCM system and wait for change. If they notice a change, they run a build," he explained.

The automation framework, Van Ryswyk said, is critical to tie in scheduling and integrations. "You want to coordinate local builds but with an official procedure and hardware," he said. "You want results, when it's done, to end up in the central location."

OTHER CONSIDERATIONS

Despite having communication and collaboration tools in place, Roger Nessier, vice president of product services at the consultant firm Symphony Services, suggested that if one has 10 development teams, but two are in a different location than the other eight, the remote teams should work on different aspects of the project to maintain the integrity of the core group's work. "You need clear delineation, so the two teams don't break code being worked on by the other eight," he said.

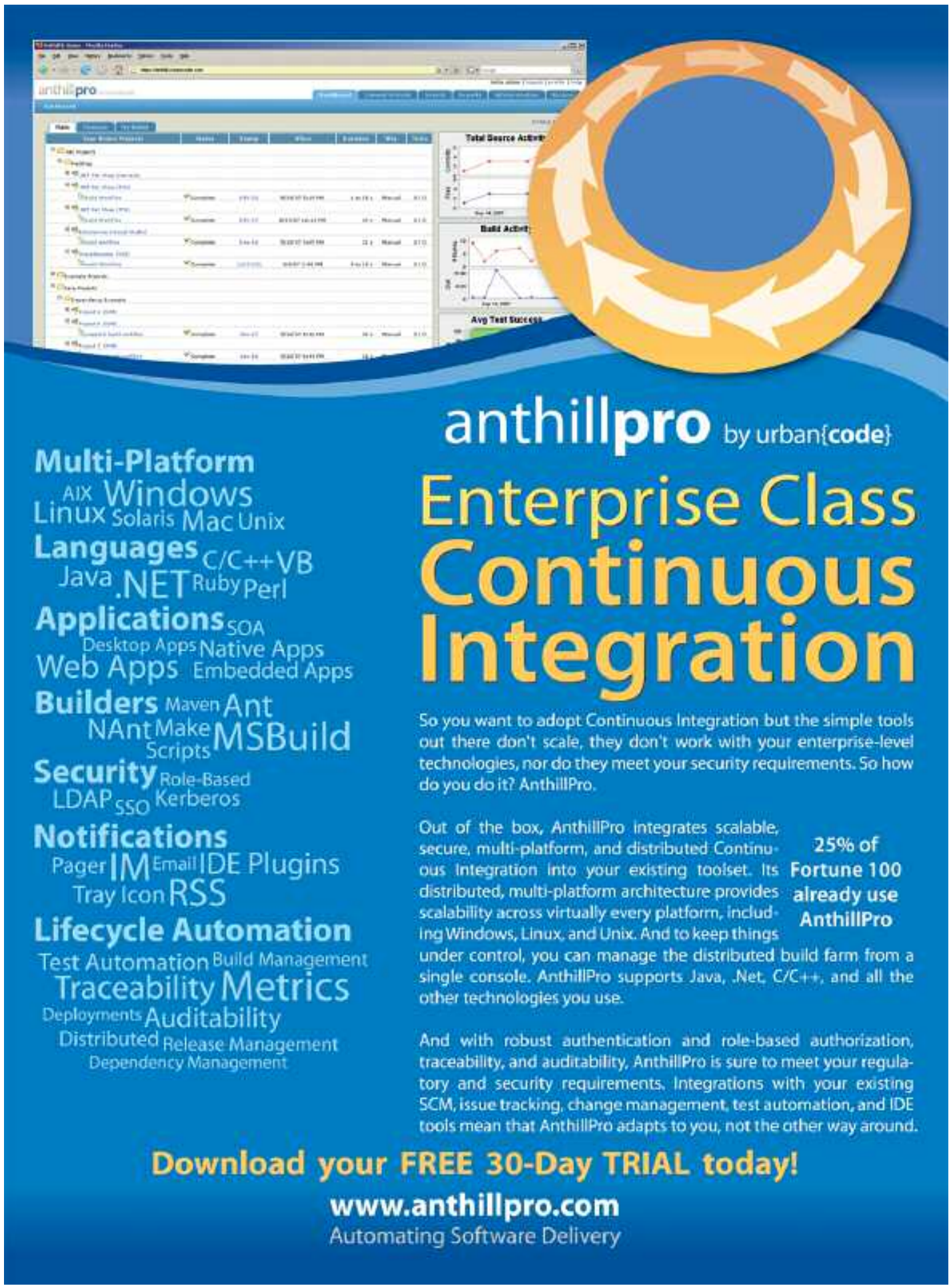
IBM's Ambler agreed. "Teams need to do their own things and then negotiate the interfaces later."

Serena's Scumniotales even said agile might not be good for all projects. "In reality, most environments are heterogeneous from a process standpoint. If you have a project that's mature, and perhaps you're only doing maintenance, what's the ROI of moving that project to agile? That's the reality businesses are dealing with."

So, if you need more communication with overseas teams than collocated ones, either via flying in or teleconferencing, and you have to have more whiteboard planning meetings, and you have to keep teams working on different projects, aren't you losing the "agile" in the process you hoped to gain?

No, according to Dave McMunn of business consulting firm Command Information. Agile evangelists have to soften up the message. Many independent coaches and consultants "say that to be XP you must do this and this, and if you're not, you're not being true to agile." Instead of calling it agile development, the term should be changed to "best practices development," he said. "But I'm not sure we're ready to do that...as a community. There's not enough momentum and coalescence of thought to make that transition."

Yet. ▮



FROM THE EDITORS

Beyond RAD

It's been quite a while since software companies aggressively pursued the concept of rapid application development, or RAD, as a means of getting simple programs out the door quickly using integrated development environments with lots of wizards and point-and-click code generators. Inherent in the RAD concept was that there would be a counterpoint: More serious line-of-business applications would be built with non-RAD toolchains, presumably assembled from discrete "professional grade" tools, such as editors, compilers, debuggers and modelers.

What has happened is that the RAD and non-RAD worlds have merged, thanks to the steady improvement of IDEs. Where, once, a developer hoping to construct a desktop database-backed application had to hand-code all of the SQL statements, network code and desktop interfaces, these days there are countless ways to build the same application either on top of existing code, or simply by pointing and clicking in the right software.

The demise of RAD, as a characterization of a set of development tools and of a development philosophy, is a sign of just how far we've come. The vast majority of developers, even those working on large projects, can accomplish a tremendous amount with Visual Studio, Eclipse, NetBeans or JBuilder—even if they don't choose a major full-service application life-cycle management suite.

When was the last time your developers actually wrote out all the headers and includes needed in a fresh project? It's more than likely they used a RAD-like feature in their IDE, which asked them to point and click on needed libraries. And why not? The biggest hurdle on most projects is simply getting started, so it's for the betterment of our organizations that the leading IDEs tend to come with templates and building blocks that can tailor a new file to our needs at the drop of a mouse button.

In the same way that car makers no longer brag about their automatic choke or antilock brakes, software companies rarely brag about their IDE's RAD capabilities anymore. Every IDE that's worth a darn now includes RAD functionality. But now we just call them "features," barely worth a second glance.

No Back Doors

A lot of software, both enterprise and commercial, have back doors, which allow developers—or other, unscrupulous people—to bypass security systems and have access to the application, its data or the network on which the software is running.

Sometimes those back doors are unintentional. Perhaps they were coding or testing aids to allow developers to take shortcuts during the design, programming or QA process, or to simulate the running of the application in a test bed environment that might have the same characteristics as the deployment platforms. These back doors were meant to be disabled or removed prior to delivery…but sometimes they're left in, either accidentally or on purpose.

Too often, these back doors are exploited by the developers, or by other people who discover them by examining source code or using sniffers. Those exploits are used for theft, blackmail or worse.

SD Times condemns, in the strongest possible terms, the practice of embedding or leaving hidden back doors in delivered applications. That's true whether the applications are commercial off-the-shelf packages, enterprise apps written by salaried on-staff developers, or work done by outsourcing companies or consultants.

If you are writing software for someone else, you should make certain that there are no back doors left in your delivered applications. That may mean scanning software, especially around data access, remote access and security routines.

If you are commissioning software to be written by consultants or others, ask them to guarantee—in writing—that no back doors are being left in their work. Ensure that they take full liability if that pledge is proven false.

This is a big issue. Software back doors should not be taken lightly. ▮

SHORT TAKES

IT DID NOT TAKE LONG for some intrepid programmer to unlock the Apple iPhone. The tinkering broke AT&T's hold and made it possible to use the phone on another carrier's network, albeit with limited functionality. Cue the inevitable response from Apple: software updates that undo the hacking under the guise of a critical security update. But Apple went a step further this time: "WARNING: Apple has discovered that some of the unauthorized unlocking programs available on the Internet may cause irreparable damage to the iPhone's software," a message reads during installation. "If you have modified your iPhone's software, applying this software update may result in your iPhone becoming permanently inoperable." Apple's desire to exercise control over its product is understandable, but whatever happened to the freedom to tinker? And more important, why would Apple want to leave its customers with a shiny paperweight? At press time, word is that Apple's plot has backfired: The update is also turning customers' iPhones that were not unlocked into iBricks.

–David Worthington

SORTABETA. It sounds like a delicious frozen dessert, doesn't it? But it's a word I made up the other day, when explaining to one of my colleagues how Microsoft's Community Technology Previews fit into the classic alpha-beta-release candidate hierarchy. This isn't the funniest thing I've ever said; it's been at least a decade since I started calling myself an unpaid gamma tester, for example. But people thought that one meant I specialized in displays and monitors, so I don't use it in technical company. But "sortabeta" is catchy; I might just have to trademark it. It nicely describes software in the CTP state, code that's not really ready for prime time, but good enough to take a kick to the tires.

–P.J. Connolly

IF YOUR COMPANY HAS a customer service call center among its branches, chances are that it's one of the most costly, frustrating and difficult portions of the business. Thanks to IP Telephony, all manner of software can now be built (on Cisco, Asterix or otherwise) to control and manage incoming phone calls, and to keep those operators more informed. As a pilot project, I'd recommend finding any way possible to keep user-input data alive throughout the call. Nothing is more irritating when calling for help then having to dial in your account number, only to then be asked for this information two or three more times by operators. Whipping up some metadata controls that can be associated with live calls in the hold queue shouldn't take too long, provided the underlying infrastructure of your company's phone network has been refreshed in the past two years. It's not just a good idea—it'll save everyone time and frustration, particularly your callers.

–Alex Handy

BEFORE YOU SHELL OUT money for a requirements tool, ask yourself whether you really need one. That's the advice Forrester Research offered in a Sept. 28 report, "Selecting the Right Requirements Management Tool—Or Maybe None Whatsoever." Tools are good at tracking things such as which requirements have been tested. But they can't improve the quality of the requirements themselves. Nor can they ease the process of changing requirements during the development process. "Using requirements management tools to address pains around requirements change is like using accounting software to curb runaway expenditures," the report said.

–Jennifer deJong

I AM CURRENTLY TAKING some graduate courses at Hofstra University here on Long Island, N.Y., in pursuit of a master's degree in journalism, and one of the main classes that I am enrolled in this semester is called "Journalism on the Web." As an assistant editor on SD Times, I already have a leg up in the class. The professor talks about the creation of mashups, and I already know what they are and how to build one. We're being schooled on the use of RSS feeds, writing HTML, and that is already a stroll in the park. Now, if the professor asks us if we know anything about application life-cycle management, that's where I'll really be able to "wow" them.

–Jeff Feinman

MY TEENAGE DAUGHTERS are big into social networking; one has a Facebook account, the other a MySpace page. I happened onto their pages recently (I wasn't spying, and I'm sticking to that story!) and noticed each had about 250 "friends" who had access to their sites. I remarked to them that I didn't even know they knew that many people, and I was told they're just kids from school, and friends of kids from school, and friends of friends of kids from school. So I asked about how many they actually communicate with regularly, and found out they talk to about 10 or 15 each. It's scary to think, though, about how many people they hardly know that have information about where my daughters go to school, what year they will graduate, and some of their favorite things. Is that what friends are for?

–David Rubinstein

Is a Featureless Product in Your Future?

For decades, most ISVs have taken this approach to creating new versions of software: Pile on additional features, market them as the newest and greatest, then sit back and hope the revenue comes pouring in.

In the best case, before starting development the software company surveys users to find out which features top their wish lists, and their order of priority. In other cases, the approach can be a casual one: getting a few salespeople into the office and asking, "So, what do these people want?" And, of course, there's the "developer knows best" approach, which bypasses any polling or information-gathering in deference to the developer's superior knowledge of what the customer needs.

Once the feature list is prioritized, developers go to work ladling these new features into the software framework, trying to fit in as much as possible within the promised delivery time. If they can't deliver a feature list that looks good on a spec sheet, Web site and press release, they might delay delivery or compromise on a reduced feature set that will stem the tide until the next product release.

What's not to like? If users get what they think they requested, and the features actually do what they are purported to do, then this feature-driven approach works fine. Users can justify upgrade purchases to their bosses based on waving the spec sheet and reiterating the vendor's promises of better performance and quality.

From the ISV side, it works wonderfully. A new version of software with additional features typically opens up a fresh revenue stream, giving an existing product new life and making a substantial contribution to the bottom line.

So, if the user is happy and the software company is happy, what's the issue?

MISSED OPPORTUNITY

The issue is one of missed opportunity: the opportunity to do something really great that users have never seen before and could never even imagine, much less request, in a feature survey or discussion—something that gets a job done in a way that makes their lives better.

Developing this type of product requires going beyond features. It means concentrating on what the customer wants to achieve. Sounds simple, but it is extremely difficult. The rewards for getting it right, however, are substantial.

Take a look at the search engine market just before the turn of the century. Alta Vista, Hotbot and Infoseek were doing a pretty good job with their search engines, and people were relatively happy to use them. You didn't hear a lot of cries from the general public for a simpler, more effective search engine. Then came Google.

A couple of smart guys from Stanford figured out that all people cared about was the fastest, simplest and best way to search. They developed a product that does one thing awesomely well. By concentrating on the end result—better search—and pioneering new ways to get there, Google changed the whole landscape, and created a brand name that's both a noun and a verb.

Google tapped into a need that was never expressed explicitly. The processes that begat this phenomenon could not have come from asking customers about features or methodologies for delivering information.

AIMING TO DELIGHT

When a customer is asked about features, the software development process is stunted from the beginning. The customer is only going to talk about what he or she knows in technical terms. As Apple's Steve Jobs said in a 1998 interview with BusinessWeek, "It's really hard to design products by focus groups. A lot of times, people don't know what they want until you show it to them."

What customers do know, often in passionate detail, is what they want to achieve. If a company can deliver on just one thing a significant number of customers really want—something that changes their work lives—these customers are not just pleased, they're delighted.

With the feature-based approach to development, a software company might have a guaranteed "well done" from the customer, but there will never be that transcendent feeling that comes from forging a connection with a customer that goes beyond the product—a connection that makes customers feel that you are in touch with their needs and desires.

Conventional wisdom says that you can't sell a product without promoting new features. The rationale is that customers talk the simplicity talk, but they buy feature-laden complexity. Offering a simple way to complete a task that used to take multiple, tedious steps is not enough to sell a product.

It's true that there will always be people who want more features, just as there are people who want to wear multiple gold chains or buy the car with the most options. But, that's not always the case any longer in the software market, if it ever was. Software professionals know their jobs inside and out, or certainly well enough to recognize a tool that can save them time and energy. They'll settle for new features and incremental improvements if that's what you got, but they'll devour anything that elegantly solves a problem in a simple way—even if it doesn't come with a page-long feature list.

The key is getting potential customers to try the product. That's where providing free trials of the complete software over an ample amount of time makes the difference. Many companies don't do this, for fear of piracy or that the software will be used to take care of a problem during the evaluation period and not purchased. But, these are chances a software company should be willing to take if it thinks it has a superior solution to offer.

Once people have a chance to try something that works better and more simply, evidence shows that they not only will buy in a big way, but also will become advocates for the company that solved their problem. That's what separates what Jobs calls the "insanely great" product from the merely competent one. ▮

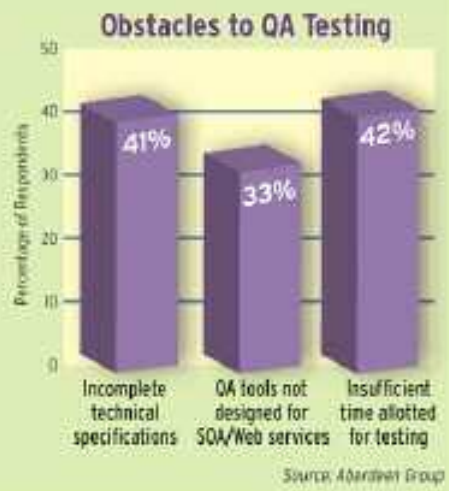
Simon Galbraith is joint CEO of Red Gate Software, which sells SQL and .NET development tools.

SOA Presents Problems For QA Teams

DATA WATCH

Although many shops have adopted testing and QA regimes, conventional methods such as functional and unit testing are no longer sufficient, concludes a recent report from Aberdeen Group.

In "SOA And Web Service Testing: How Different Can It Be?" Aberdeen's respondents indicated that testing business processes, integration and regression have become essential components of the test plan. Requirements for performance and security testing have added to the complexity of the chore facing the QA team.



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Editorial

Editor-in-Chief
David Rubinstein
+1-631-421-4158 x105
drubinstein@bzmedia.com

Managing Editor
Patricia Sarica
psarica@bzmedia.com

Senior Editors
P.J. Connolly
pjconnolly@bzmedia.com
Jennifer deJong
jdejong@bzmedia.com
Alex Handy
ahandy@bzmedia.com

Associate Editor
David Worthington
dworthington@bzmedia.com

Assistant Editor
Jeff Feinman
jfeinman@bzmedia.com

Columnists
Andrew Binstock
David S. Linthicum
Larry O'Brien

Contributing Writers
Mary Jo Foley
Geoff Koch
Susan Messenheimer
Lisa L. Morgan
Carol Weiszmann

Editorial Director
Alan Zeichick
+1-650-359-4763
alan@bzmedia.com

Art & Production

Art Director
Mara Leonardi

Art/Production Assistant
Erin Broadhurst

Sales & Marketing

Publisher
Ted Bahr
+1-631-421-4158 x101
ted@bzmedia.com

Associate Publisher
David Lyman
+1-978-465-2351
dlyman@bzmedia.com

Southwest U.S./Asia
Robin Nakamura
+1-408-445-8154
rnakamura@bzmedia.com

Advertising Traffic
Phyllis Oakes
+1-631-421-4158 x115
poakes@bzmedia.com

Northwest U.S./ Canada
Paula F. Miller
+1-925-831-3803
pmiller@bzmedia.com

Director of Marketing
Marilyn Daly
+1-631-421-4158 x118
mdaly@bzmedia.com

Southeast U.S./ Eastern Canada
Jonathan Sawyer
+1-603-924-4489
jsawyer@bzmedia.com

List Services
Lisa Fiske
+1-631-479-2977
lfiske@bzmedia.com

Reprints
Lisa Abelson
+1-516-379-7097
labelson@bzmedia.com

Middle Atlantic/ Midwest
Daniel Gaiman
+1-631-421-4158 x114
dgaiman@bzmedia.com

Accounting
Viena Isaray
+1-631-421-4158 x110
visaray@bzmedia.com

New England/Europe
David Lyman
+1-978-465-2351
dlyman@bzmedia.com

Reader Service

Director of Circulation
Agnes Vanek
+1-631-443-4158
avanek@bzmedia.com

Customer Service/ Subscriptions
+1-847-763-9692
sdtimes@halldata.com

BZ Media

President
Ted Bahr

Executive Vice President
Alan Zeichick

BZ Media LLC
7 High Street, Suite 407
Huntington, NY 11743
+1-631-421-4158
fax +1-631-421-4130
www.bzmedia.com • info@bzmedia.com

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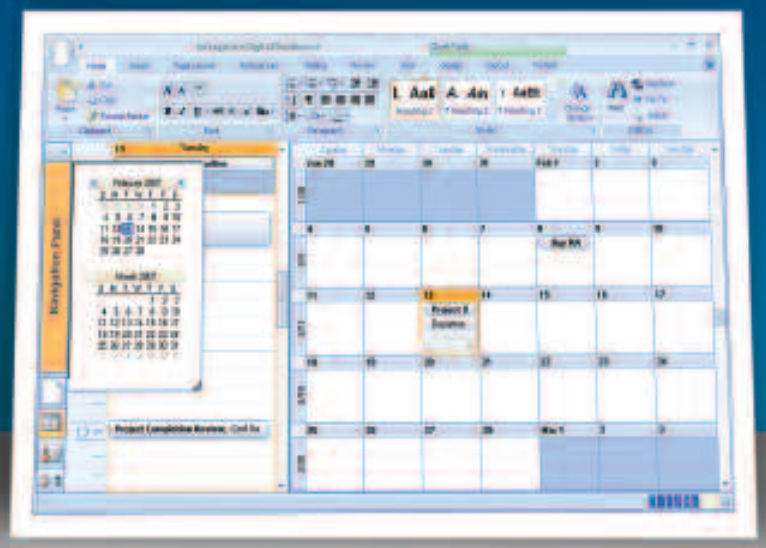

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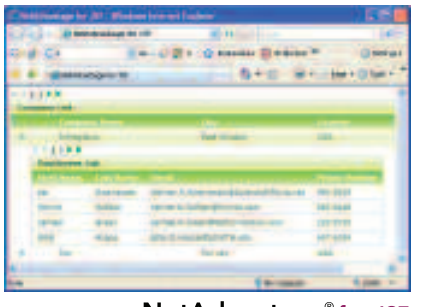

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Erlang: What the Cool Kids Are Doing

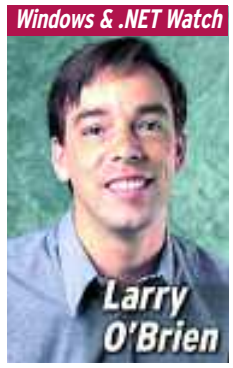
Geepster, *n.* A person who derives his or her identity by mastering complex, but lesser-known, technologies; a geek hipster.

Erlang, *n.* What all the geepsters are using now that they let *anyone* code in Ruby.

The psychology of the "early market" adopters is brutal. Enthusiasts and visionaries convincingly sing the praises of this programming language or that architectural model, articulating advantages and emphasizing the "game changing" nature of the technology. Thousands of blogs are launched, dozens of books are printed, a clutch of conferences convened: The technology is poised for total and utter dominance of the software development world! Then everyone moves on to the next thing.

I've long advocated the model explained in Geoffrey Moore's "Crossing the Chasm," with its ruinous chasm between "early" and "mass" markets, as the best for understanding the adoption of software development technologies. I don't want to rehash that belief, but I feel sorry for those in the Ruby and Rails communities, who must be feeling a little jilted right now. To be clear, I believe that Ruby actually *has* "crossed the chasm" and will see wholesale adoption in the enterprise. Microsoft's IronRuby project has tremendous potential when coupled with the Dynamic Language Runtime and Silverlight 1.1, while Sun's JRuby project has not just shipped, but appears to be ticking off incremental milestones with ease.

Windows & .NET Watch



Meanwhile, CodeGear, the company formed from Borland's languages division, has shipped the first version of a dedicated IDE for Ruby called 3rdRail, and SapphireSteel, whose Ruby In Steel plug-in for Visual Studio has been my preferred IDE for Ruby development, has made a .NET-to-Ruby bridge available for free download. But the blogosphere's encomiums to Ruby have definitely waned, and recent Technorati searches have been more likely to turn up sour "this would be easier in PHP" posts than the rapturous testimonies of the past few years. Such is the fate of technologies running the gantlet of the skeptical mass market.

In the meantime, the geepsters have moved on to Erlang. Erlang is not short for "Ericsson Language," but rather is named after A. K. Erlang, an early telecomm theorist (who's also, I am told, the namesake of a dimensionless unit of telecomm traffic volume). The fact that Erlang was developed and matured within Ericsson is a happy coincidence. Until recently, Erlang was viewed in the programming language community as a commercial (and therefore somewhat suspect) language suited primarily for telecomm and perhaps other embedded systems. The surge in interest has been driven primarily by the release of Joe Armstrong's excellent tutorial book "Programming Erlang: Software for a Concurrent World" (Pragmatic Bookshelf) and the growing realization that we are, indeed, entering that "concurrent world."

Erlang implements the "Actor" paradigm for concurrency, whose essential component is very fine-grained asynchronous messaging flowing between lots of processes (it's worth noting quickly that Erlang's processes do not have anything like a 1:1 mapping to OS processes). As I've mentioned in recent columns, this is one of several alternatives to the lock-based model embodied in .NET and other mainstream platforms. Although it's far too preliminary to crown any of these alternatives as a complete solution, nothing but good can come from more people taking them out onto the roads for a spin.

While creating thousands of processes is the thrill that is causing the most excitement right now about Erlang, it also has a fascinating "hot swap" capability that allows you to replace modules dynamically without losing state or restarting the application. Obviously, this is part of Erlang's telecomm legacy, but the thought of a system that never has to be taken out of service for upgrading is heady stuff.

Erlang's syntax may be intimidating at first glance, and its lack of a modern IDE off-putting, but those are exactly the sorts of things that enthusiasts and visionaries can look past in favor of a technology's unique virtues. Of course, in three years, you can expect me to start screaming that what Erlang needs is an editor with decent code completion. ▮

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at www.knowing.net.

From Ant to Maven

During the past month, I have been doing what increasing numbers of developers are urging their peers to do: move projects from Ant to Maven 2. In my July 1 column, I discussed my mounting frustrations with Ant ("Moving Past Ant," www.sdtimes.com/article/column-20070701-04.html). When I finally was no longer motivated to soldier on with Ant's minimal delivery model, I finally put the time in to make the switch to Maven. I'm glad I did. There is lots to like about Maven.

Most visible is that Maven has a vision of a build cycle that consists of a sequence of commonly performed build steps. You indicate what you want done in certain steps, and that's it. Maven has intelligent default behavior for the other steps, so the results tend to be what you expect. This build model enables Maven to embrace the paradigm of "convention over configuration" that was made famous by Ruby on Rails. With Maven, you roll with the basic model, making only small tweaks for project-dependent steps, rather than configuring every step in detail for Ant. Ant is more like the venerable make tool, which simply follows orders and serves as a meta-level task execution language.

The Maven model also has a useful end result in addition to the built project: a Web site with the reports generated by the various build steps. Maven creates a Web site with menu picks that reflect not only reports on standard operations, but any other documents or reports you request. For example, place a JDepend command in Maven to see the dependencies between packages in your Java project, and the results are displayed in an HTML report on your Maven Web site. Because of this, your project Web site as created by Maven always reflects the latest status of your project. Stick it on your developer intranet, and all team members know exactly where things stand.

Integration Watch

This comes tantalizingly close to what is thought of as continuous integration (CI). However, it lacks a few crucial elements that CI provides: It does not monitor source-code repositories for any modification that could start up the build process, and it does not keep historical data on previous builds—the generated Web site is a single time slice. But if you add monitoring and history to Maven, you would have a barebones CI system. Because of this proximity, most CI systems support Maven 2.

Maven has another very convenient feature. When you ask it to run a utility (such as one of the many code checkers available), it knows how to find and download the utility and how to download the libraries and resources the utility requires. Picking up my previous example of JDepend: Maven downloaded all the needed pieces and stored them in its local repository and then generated the JDepend report.

Ant, by comparison, refused to run JDepend and instead issued a warning that it could not find a needed JAR file. This feature can also be leveraged by sites to make sure that they are always building with the latest versions of tools. (Predictably, this update feature can be overwritten.)

The migration from Ant to Maven is not hard. The central file for both uses XML (alas). And the specification of options for specific jobs will look familiar. However, Maven does expect a certain directory layout for source, binaries, tests, library files and so forth. This arrangement can be overridden, but doing so flies in the face of the convention over configuration mantram.

Fortunately, the project layout is eminently sensible, so migrating to it is not likely to be a problem, only a one-time hassle.

A complaint I have heard a few times is that there is not much in the way of documentation for Maven 2, so newbies have to work in the dark.

Fortunately, this is a misperception. There's a lot of excellent documentation, but it's not obvious where to find it. There are two comprehensive guides available at no cost in PDF format: "Better Builds with Maven," by four authors (www.devzuz.com/web/guest/products/resources), and "Maven, The Definitive Guide," by three authors (www.sonatype.com/book). Both books run to nearly 300 pages and are excellent.

For those who want to enter the pool from the shallow end, Sing Li's "Introduction to Apache Maven 2" (www-128.ibm.com/developerworks/edu/j-dw-java-mavenv2.html) is a great place to start and, at 35 readable pages, it gives you a quick, easy overview of the tool and how to get rolling.

In all these texts, you should avoid reading about Maven 1, which was a rather different beast in key ways.

Stick with Maven 2: Your days of cursing at Ant will be over, and your builds will be much easier. ▮

Andrew Binstock is the principal analyst at Pacific Data Works. Read his blog at binstock.blogspot.com.

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Open Source and SOA

What's funny about open source is the number of definitions I see for it, and the number of reasons why people think it's a good thing. I kind of look at it like hybrid cars. Most people don't know how they work. They just know they are good, and thus want them. So, let's drill down on this a bit.

From Wikipedia:

"Open source is a set of principles and practices that promote access to the design and production of goods and knowledge. The term is most commonly applied to the source code of software that is available to the general public with relaxed or non-existent intellectual property restrictions. This allows users to create software content through incremental individual effort or through collaboration."

OK, I get that, but I'm not sure most enterprises are going to hack at an ESB, governance tool or data abstraction layer on their own. However, knowing that you could may carry some advantages and protections. Moreover, that also has a tendency to create a community, thus access to a bunch of smart people to assist you in getting your open source product to function correctly. Clearly, there is value there.

I think open source, when it comes to SOA, provides two major advantages.

First, it's typically much less expensive than the tools and the technology that are proprietary.

Second, the tools are typically much more simplistic and easier to understand and use.

To the first point, SOA technology is expensive. I'm talking ESBs-that-cost-as-much-as-Bentleys expensive. Thus, anything that can reduce (or eliminate) costs makes good sense when considered with the mix of technology you need to build a SOA. Guys like XAware, for instance, with an open source data abstraction/data services layer, can provide you with key SOA technology at a very low price point. MuleSource is an example of an open source ESB player with a low price point as well, and there are other open source SOA players out there, all offering their wares at a discount.

The argument that the larger players are making against open source SOA tools is that you get what you pay for. While this is true in some instances, it's mostly not true when it comes to SOA. Most of the open source SOA players that I see provide many of the same features and functions, just in different ways. Once again, your requirements should come before you pick your technology. If an open source SOA player works as a solution, and you're comfortable with the company, the price should be a nice benefit as well.

This does not mean, however, that open source tools are always the right solution. It means that you need to consider them in the mix, taking into account the benefits of using open source. Don't send me angry e-mails if your open source SOA provider misses the mark. That's on you. You need to figure out your requirements and test the darn thing before accepting it as a solution, proprietary or open.

To the second point, simplicity. The open source SOA providers seem to take a much more rudimentary approach to SOA, and their tools seem to be much easier to understand and, in some cases, use. While some people want complex, powerful tools, the reality is that most SOAs don't need them. If you're honest with the requirements of the project, you'll see that good enough is, well, good enough. As a result, you end up with less expensive technology that provides only a subset of the features and functions of the larger big stack players. If you don't need them, they only make things more complex, and SOA is complex enough as is.

One of the major mistakes that SOA architects can make is to rely upon the big stack players to provide them with all of the components they need to build their SOA. While this seems like the most logical solution, the fact is that while the big SOA stack guys are able to provide the right technologies at some layers, they are typically the wrong technology at other layers. Again, requirements to technology, not the other way around.

At the same time I'm picking on the big stack SOA guys, there are those out there who are religious about open source and pick nothing else. Thus, they'll accept their inability to meet certain requirements of their SOA just to have the warm and fuzzy feeling that they can change the code at will. And, like the big stack mistake I mentioned, they make the same mistake with open source. At least it is a less-expensive mistake, but it's a mistake nonetheless.

SOA is an architecture. Thus, you need to consider all technologies that are right for your architecture, open source or not. In the world of SOA, open source SOA technology is having a huge impact. In many instances, open source SOA also brings tools to the project that are just right to solve the issues at hand. ▮

David S. Linthicum is a managing partner at ZapThink. Reach him at david@zapthink.com.

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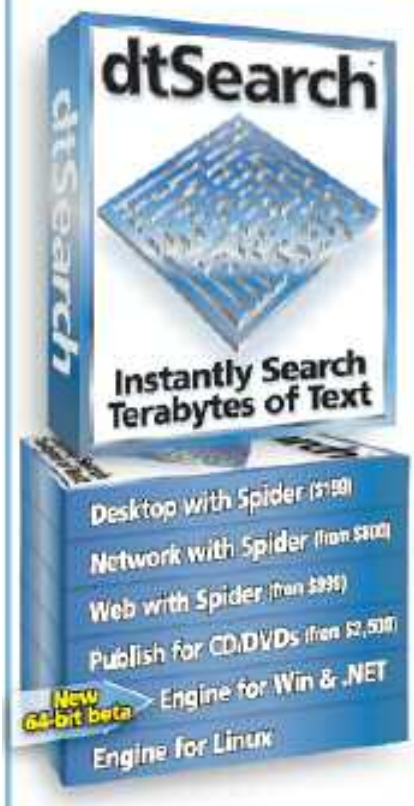

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RAD Isn't 'Rad'? How SAD

After all the books that have been written, after all the technical articles and newspaper stories that have been published, we find out in this issue that the concept of "rapid application development" might not be relevant any longer to a discussion of software development.

RAD, some argue, just isn't "rad" anymore.

Industry Watch

The story, written by my colleague Jeff Feinman, points out that when an alternative was needed to bulky tools that couldn't readily facilitate changes to requirements or code, RAD was a radical idea. Now, though, with a broad movement toward agile development processes for all development—including shorter iterations and life cycles, and application frameworks that accommodate plug-in tools for specific tasks—RAD can now be replaced by the acronym SAD—Simply Application Development.

All of this gave me the idea to see what other concepts and terms that were so widely discussed and written about a few years ago have now been consumed by the ever-evolving nature of development. Three terms in particular—CORBA, ebXML, MDA—came immediately to mind.

These are but three concepts that I'm sure are near and dear to the hearts of those intrepid souls who continue to advance them (keep your letters polite, please), but that have faded off the bookshelves and out of the headlines in the years since they were touted as our industry's "next big thing."

CORBA, the Common Object Request Broker Architecture, was designed as a way to get programs written in any language, residing on any network, to interact with one another. It was such a breakthrough, implementing the idea of separating the interface from the code and data, that it became the technology of choice for messaging middleware in the 1990s.

However, outside of the Object Management Group, which oversees the specification, see if you can find anyone who still discusses CORBA. I remember interviewing the fine folks at TIBCO a few years back, which used to identify itself as "the CORBA company." That didn't last: Its executives fell all over themselves convincing me that while TIBCO still offers CORBA-based products, that wasn't the company's go-to-market message any longer. And now, this very useful technology is so mainstreamed that it's just a standard part of messaging technology. There's no need to say that something is CORBA-based anymore. It's just there.

ebXML was meant to facilitate electronic trading relationships between business partners, according to a document on the ebXML.org Web site. Quoting from the book "ebXML: The New Global Standard for Doing Business Over the Internet": ebXML should "enable any company of any size in any industry to interact with any other company of any size in any other industry."

IBM, an early backer of ebXML, had page upon page of documentation regarding the specification on its Web site back in 2001; they still can be read today. BEA and other big players supported it, and there even was an open source effort to create an ebXML implementation.

But now you don't hear the vendors pushing it, nor do you hear customers, especially those in the financial services sector, clamoring for it, as they did some five or six years ago. Where have they all gone? The more critical pieces of ebXML have been subsumed in the broader Web services specifications that ensure interoperability and security.

Let's not forget MDA. Much ink and many pixels were spilled, in SD Times and elsewhere, writing about Model Driven Architecture. There has been uptake in very large organizations that require the ability to structure specifications as models, but again, outside of OMG gatherings, I haven't heard anyone discussing MDA—either in a positive or negative way. To some, it's way too complex to implement. To those that use it, it has simply become the way they engineer software. Companies don't tout the fact they're doing MDA anymore; they just create their software that way.

The point is, good technology lives on, even if the buzz around it subsides. It doesn't have to be the hottest new thing or the next-best technology. Much like the actor Burt Reynolds has been able to find work long after the buzz surrounding his photo shoot in Playgirl and his marriage to bombshell Loni Anderson have faded from memory, technologies such as those discussed here will always exist, because they simply work. ▮

David Rubinstein is editor-in-chief of SD Times.

BUSINESS BRIEFS

The **U.S. Securities and Exchange Commission** (SEC) is one step closer to having a standardized system in place for financial reporting. The SEC announced on Sept. 25 that it had completed all development work on XBRL-formatted data tags that adhere to Generally Accepted Accounting Principles (GAAP). It must now pass a review for GAAP compliance by the Financial Accounting Foundation (FAF). Stakeholders including financial analysts, public company preparers and software providers will review the draft taxonomies before the SEC initiates a public review. The SEC did not say when it would mandate usage of XBRL, an open specification for software that uses XML tags to describe financial information . . . **Adobe Systems** announced earlier this month the acquisition of Massachusetts-based **Virtual Ubiquity**, developer of the online word processor Buzzword, for an undisclosed sum. Built with Adobe's Flex software and able to run in the Flash Player or on Adobe's AIR platform, Buzzword gives rich Internet applications greater document quality, page layout controls and advanced graphics integration, according to the Adobe announcement. The company also announced a free online document-sharing service called "Share" . . . A prize pool of US$260,000 will be awarded at the **2008 TopCoder Open**, with the finals to be held in May at the Mirage hotel in Las Vegas. First place in the algorithm competition and in software design will win $25,000, while the top spot in software development will win $15,000, among other categories.

EARNINGS: Red Hat recently announced revenue of US$127.3 million for its second fiscal quarter ended Aug. 31. Revenue rose 28 percent from the same quarter in the prior year. Net income for the quarter was $18.2 million, or 9 cents per share, compared with $16.2 million, or 8 cents per share, a year ago. Among its milestones for the quarter, Red Hat said that more than 3,000 applications have been certified on its Enterprise Linux platform. The company released a beta of its Red Hat Developer Studio, an Eclipse-based set of open source development tools, and released the JBoss Enterprise Application Platform 4.2. "We continue to see robust demand for our open source solutions and are encouraged by our market position," said Charlie Peters, CFO at Red Hat, in a statement . . . Net income of US$4.6 million, or 2 cents per share, highlighted **TIBCO Software**'s third fiscal quarter earnings report, for the period ended Sept. 2. The income was based on revenue of $135.1 million. For the same period in fiscal 2006, net income was $11.3 million, or 5 cents per share, on revenue of $120.4 million. The company cited the expenses associated with the acquisition of **Spotfire Holdings** as a reason for decline in profitability. "Although Q3 results weren't in line with what we projected, I remain confident in the strength of our technology and our ability to achieve profitable growth as we close out the year and for the long-term," said TIBCO chairman and CEO Vivek Ranadive in a statement. ▮

EVENTS CALENDAR

VSLive — Oct. 15–18
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1105 MEDIA
www.ftponline.com/conferences/vslive

Web 2.0 Summit — Oct. 17–19
San Francisco
O'REILLY MEDIA
www.web2summit.com

Global Six Sigma Summit — Oct. 23–26
Las Vegas
WCBF
www.gsssa.com

DigitalPersona Developer Summit — Oct. 24–26
San Francisco
DIGITALPERSONA
www.digitalpersona.com/developers/DevSummit07/devsummit.php

Verify Conference — Oct. 29–30
Arlington, Va.
DCTESTER
verifyconference.com

Business of Software 2007 — Oct. 29–30
San Jose
RED GATE
www.businessofsoftware.org

DevConnections — Nov. 5–8
Las Vegas
DEVCONNECTIONS
www.devconnections.com

EclipseWorld — Nov. 6–8
Reston, Va.
BZ MEDIA
www.eclipseworld.net

SC07 — Nov. 10–16
Reno, Nev.
IEEE
sc07.supercomputing.org

Oracle OpenWorld — Nov. 11–15
San Francisco
ORACLE
www.oracle.com/openworld/2007/index.html

ApacheCon — Nov. 12–16
Atlanta
APACHE SOFTWARE FOUNDATION
www.us.apachecon.com

XML 2007 — Dec. 3–5
Boston
IDEALLIANCE
2007.xmlconference.org

Agile Development Practices Conference — Dec. 3–6
Orlando, Fla.
SOFTWARE QUALITY ENGINEERING
www.sqe.com/agiledevpractices

Macworld Conference & Expo — Jan. 14–18
San Francisco
IDG WORLD EXPO
www.macworldexpo.com

Southern California Linux Expo — Feb. 8–10
Los Angeles
SCALE INC.
www.socallinuxexpo.org

Game Developers Conference — Feb. 18–22
San Francisco
CMP MEDIA
www.gdconf.com

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar.

Information is subject to change. Send news about upcoming events to events@bzmedia.com.

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